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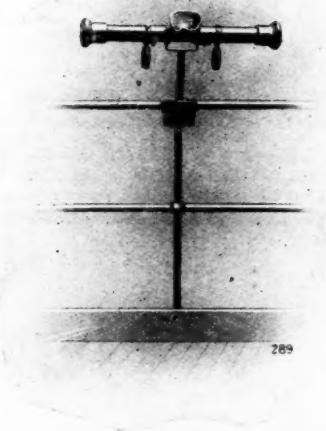
112, REGENT STREET, W.



WOLFE

1726-1759

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289

THE BARR AND STROUD RANGEFINDER
F.T.4 TYPE 31½ INCHES BASE.

For Navigational use on board Battleships and Cruisers,
or for ranging purposes on board Destroyers.

Approximate uncertainty of observation:-

2 yards at 600 yards.

7	"	1,000	"
60	"	3,000	"
240	"	6,000	"

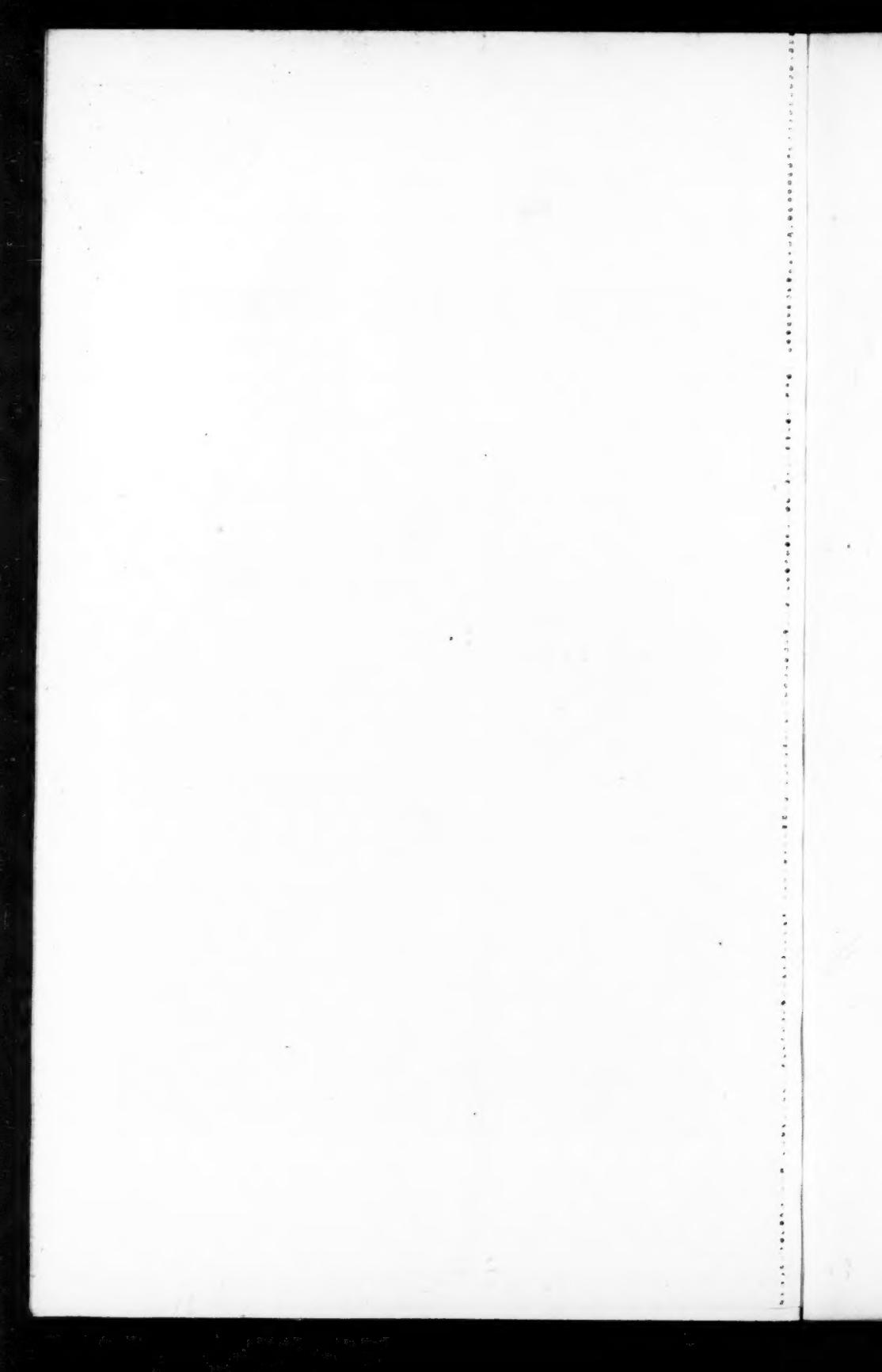
BARR AND STROUD,
ANNIESLAND,
GLASGOW.



Eleventh Foot. Granadier Company. Officer, 1686.

This regiment was one of those whose uniform was adapted from the livery of their first Colonel, the Duke of Beaufort.

Reproduced by permission of Mrs. Wintern, from Colonel Walton's "History of the British Standing Army."



It is the duty of the Secretary to report to the Council the progress of the Institution and its work, and to advise the Council of any matters which may require their attention.

ROYAL UNITED SERVICE INSTITUTION

AUGUST, 1911

SECRETARY'S NOTES.

I.—OFFICERS JOINED.

The following Officers joined the Institution during the month of July :—

- Captain H. O. Clogstoun, R.E.
- Captain R. S. Baird, Fife and Forfar Yeomanry.
- Lieutenant E. C. Wrey, R.N.
- Captain Hon. H. A. Adderley, late Warwickshire Yeomanry.
- Second-Lieutenant B. O. Hutchison, R.F.A. (S.R.).
- Cadet E. Billary-Leake, R.N.
- Lieutenant L. A. W. Spooner, R.N.
- Captain W. H. Barnett, Indian Army.
- Lieutenant L. J. Graham, R.F.A., (T.F.)
- Second-Lieutenant R. M. Owen, Oxfordshire and Buckinghamshire Light Infantry.
- Major-General J. Barnard-Smith.
- Captain G. C. B. Loch, R.E.
- Captain B. Seymour, K.R.R.C.
- Captain W. G. Mansergh, South Nigeria Regiment (Lieut. Manchester Regiment).
- Major H. M. S. O'Brien, Border Regiment.
- Engineer-Lieutenant C. A. Codrington, R.N.

II.—COUNCIL.

The Council have adjourned for the summer recess until Tuesday, October 3rd.

III.—DISTINGUISHED VISITOR.

Admiral Count Togo, O.M., Japanese Imperial Navy, visited the Institution, and inspected the Museum and Library on Thursday, July 27th, he was received by the Chairman of the Museum Committee and the Secretary, and expressed himself as highly pleased with the Institution and its objects.

IV.—ANNUAL CLEANING.

The Building will be closed for cleaning purposes from Monday, August 21st, to Saturday, September 2nd, inclusive. The Museum will be open as usual during that period.

V.—REGIMENTAL COLOURS.

The Secretary is prepared to arrange for the repairs to Regimental Colours and Cavalry Standards, in service or otherwise, at the Institution. The staff in this department has recently been augmented, and in future there will be no delay more than necessary in executing the work. A very large number have been received during the past year.

VI.—LETTERS.

Officers are reminded that the Council can accept no responsibility in the matter of letters and telegrams addressed to them at the Institution, there being no arrangements for the reception and forwarding of members' letters.

VII.—CHANGES OF ADDRESS.

Members are informed that only one change of address can be registered at a time; when that address is changed again, it is necessary to inform this office of such further change.

VIII.—ADDITIONS TO THE MUSEUM.

Bequests of the Late Miss Florence Nightingale.

- (6334.) A Marble Bust of the late Miss Florence Nightingale, executed by John Steel in 1862; subscribed for and presented by the Non-commissioned Officers and Men of the British Army.
- (6335.) A Gold Enamelled Brooch, bearing the Monogram of Queen Victoria in diamonds and 3 Stars in diamonds, with the inscription, "Blessed are the Merciful," and below on a scroll, "Crimea." On the back is engraved, "To Miss Florence Nightingale, as a mark of esteem and gratitude for her devotion towards the Queen's brave Soldiers," from Victoria R., 1855.
- (6336.) A magnificent Diamond Bracelet, presented by the Sultan of Turkey to Miss Florence Nightingale in 1856.
- (6337.) The Insignia of the Order of Merit (Civil), bestowed on Miss Florence Nightingale by King Edward VII.
- (6338.) The German Order of the Cross of Merit, which was founded in 1871 by the Emperor William I, and presented by him to Miss Florence Nightingale.
- (6339.) The Cross of the Order of St. John of Jerusalem (England), bestowed on Miss Florence Nightingale in 1904.
- (6340.) The Bronze Cross (in duplicate) of the Société Française de Secours aux Blessés des Armées de Terre et de Mer, 1870-71, with Ribbons, presented to Miss Florence Nightingale.
- (6341.) The Cross and Ribbon of the Order of the Red Cross, dated 1883, bestowed on Miss Florence Nightingale.
- (6342.) The French Gold Medal of Secours aux Blessés Militaires, presented to Miss Florence Nightingale at the International Conference, held at the Exhibition in Paris in 1867.
- (6343.) The Badge of Honour of the Norwegian Red Cross Society,

- presented to Miss Florence Nightingale, on May 10th, 1910.
- (6345.) A large Metal Brooch, with the Inscription "Blessed are the Merciful," with a representation of Miss Florence Nightingale in a Military Hospital, made by Waterhouse & Co., of Dublin (history unknown).—*Given by the Executors of the late Miss Florence Nightingale.*
- (6347.) A Portuguese Light Cavalry Sword found upon the Field of Albuera.
- (6348.) A Spanish Cavalry Officer's Sword of the period of the Peninsula War, and believed to have been used in that campaign. The hilt is damaged.
- (6349.) A Spanish Officer's Sword bearing on the hilt the monogram of King Joseph (Bonaparte) and is believed to have been presented by him. The hilt is of curious construction, being hinged so as to form, when open, a basket hilt. The hilt is finely gilded.
- (6350.) A Portuguese Sword of a Sergeant of Artillery of the period of the Peninsula War.
- (6351.) A Portuguese Infantry Officer's Sword of the early 19th Century. The handle is of wood, and hilt of brass, and embossed.

The above five exhibits are given by Raphael Reynolds Esq., of Lisbon, who obtained them from the present owner of the land on which the Battle of Albuera was fought.

- (6351.) A Coloured Lithograph Engraving of "Sebastopol from the Malakoff after the Siege," from the drawing by Captain E. S. Jervoise, 7th Royal Fusiliers, published by Day & Son, March, 1856.—*Given by the Executors of the late Miss Florence Nightingale.*
- (6352.) A bronze figure of St. George found on the body of a Russian soldier after the Battle of Inkermann.—*Given by C. R. B. Barrett, Esq.*
- (6353.) Model of a 12.5 inch 38-ton R.M.L. (Rifle Muzzle Loading) Gun; length of bore (including chamber), 16 feet, 6 inches; Rifling (Woolwich system), 9 grooves with twist increasing from 0 to 1 in 35 calibres; weight of projectile, 820 lbs., weight of charge, 210 lbs., pebble powder; muzzle velocity, 1,575 foot-seconds; muzzle energy, 13,930 foot-tons; extreme range about 4 miles. Date 1874.

These guns were constructed on what was known as the "Woolwich" or "Fraser" System, first officially introduced for the construction of heavy guns in 1865, but which was merely an improvement on the system of gun construction invented by the late Sir William (afterwards Lord) Armstrong some ten years previously. This method of construction consisted in the shrinking on round an inner steel tube, which formed the bore, of four or more jackets formed from the welding together of wrought-iron coils. The advantage of the system was that in the event of the inner steel tube bursting, as in the early days of the use of steel for heavy gun tubes often happened, the covering wrought-iron jackets being more elastic than the steel pre-

vented the effects of the bursting having disastrous consequences. This method of construction remained in force until 1881, when breech-loading guns were definitely adopted.

The present 12-inch guns are said to have an extreme range of 15 miles.—*Bequeathed by the late Lord Edward Spencer Churchill (late Captain "Isle of Wight Artillery Militia")*.

(6354.) Model of a 10-inch 18-ton R.M.L. (Rifle Muzzle Loading) Gun; length of bore (unchambered), 12 feet, 6 inches; rifling (Woolwich system), 7 grooves, spiral increasing from 1 in 100 to 1 in 40 calibres; weight of projectile, 406 lbs., weight of charge 70 lbs., pebble powder; muzzle velocity, 1,379 foot-seconds; muzzle energy, 5,356 foot-tons; extreme range about 3 miles. Date, 1867-68. Constructed on the "Woolwich" or "Fraser" system, described briefly on Exhibit 6353.—*Bequeathed by the late Lord Edward Spencer Churchill (late Captain "Isle of Wight Artillery Militia")*.

(6355.) Model of a 7-inch R.B.L. (Rifle Breech Loading) Armstrong 110-pounder gun. Length of barrel (including powder and shot chambers), 10 feet, 4 inches; rifling (polygroove), uniform 1 turn in 37 calibres; weight of projectile, 110 lbs.; weight of charge, 10 lbs. R.L.G. (Rifle Large Grain) powder; mounting, wood carriage on traversing slide; range (extreme), about 3 miles. Date, 1861.

The so-called Armstrong guns were the invention of the late Sir William (afterwards Lord) Armstrong, and were the first breech-loading rifled guns produced in England. They were first issued for service in 1860, there being six natures, viz., the 7-inch 110-pounder, described above; 40-pounder, 20-pounder, 12, 9, and 6-pounders. As the result of a number of serious mishaps with the 40-pounder guns at the bombardment of Kagoshima on the 15th August, 1863, by the English Fleet under Sir L. Kuper, when a number of the breech-blocks were blown out with fatal results, the issue and manufacture of the larger types of these guns was discontinued; the use of the 20-pounder and smaller types of these guns as field and anti-torpedo boat guns was continued for some twenty years or more later.—*Bequeathed by the late Lord Edward Spencer Churchill (late Captain, "Isle of Wight Artillery Militia")*.

(6356.) Model of an experimental 8-inch R.M.L. gun, mounted on a double-bogie carriage, running on rails with inclined plane to check recoil, used at Shoeburyness about 1875 for testing armour plates. The gun was rifled with 10 grooves, and was fitted with a curious elevating system.—*Bequeathed by the late Lord Edward Spencer Churchill (late Captain "Isle of Wight Artillery Militia")*.

[VOL. LV.]

THE JOURNAL OF THE ROYAL UNITED SERVICE INSTITUTION.

VOL. LV. AUGUST, 1911.

No. 402.

[Authors alone are responsible for the contents of their respective Papers.]

THE STRATEGICAL AND POLITICAL VALUE OF THE NAVIGABLE WATERWAYS OF INDIA

By P. BRAMLEY, Esq. (Deputy Inspector-General of Police.)

On Wednesday, April 26th, 1911.

The Right Hon. Sir HENRY MORTIMER DURAND,
G.C.M.G., K.C.S.I., K.C.I.E., in the Chair.

Continued from July JOURNAL, page 856.

IV.—THE HISTORY OF THE RIVERS.

Early Periods of Indian History.—In order to understand the situation clearly in this regard, it will be necessary to go back to the earliest periods of Indian History. Our earliest glimpse of India discloses two races struggling for the soil:—the Dravidians, a dark-skinned race of aborigines, and the Aryans, a fair-skinned people descending from the North-West Passes,—who, constantly impelled onwards by pressure from behind, marched in whole communities from one river valley to another, till they drove the bulk of the Aborigines back into the southern tableland, and on to the sea-board, and thus possessed themselves of the great plains of northern India, which they dominated for many centuries afterwards.

Early Dravidian River Folk.—These earlier Dravidians are of some particular interest to us now, as their descendants are the present day river-folk, who still work on the same waterways, in boats of a description, which, like so many other things in India, are of precisely the same structure and pattern as those employed in the long ages past, by their forbears. It is evident that these early Dravidians were essentially a river and maritime people, and that so long ago as the 7th Century B.C., they are supposed to have availed themselves of the Monsoon, and traded not only on the rivers and estuaries, but on the western sea-board as far as Babylon.

The Aryans and Early Hindu Nations.—It was from these people that the Aryans appeared to have acquired their first knowledge of the sea, and from whom they learnt the art of building ships, as described in the Vedas. Out of these Aryan communities, in turn, arose the Hindu nations of Northern India, of whom in the 6th Century B.C., there were at least five great kingdoms, viz., Gandahra in the North-West, in the neighbourhood of Peshawar; Vainsas, to the west of the river Jumna; Kosala, or modern Oudh; Aventi, Central India, and Maghada, Bengal.

Influence of the Rivers.—The principal cities of that period being Magrahara, the present-day Jalalabad, and Peshawar, both on the Kabul River; Mulasthānapur (Multan), on the Chenab; Indrapastra (Delhi), Brīndeban, and Muttra, on the Jumna; Ajudhia on the Gogra; Kashi, Benares, Pryag (Allahabad), Pataliputra; (Patna), on the Ganges, and Ujjain on the Chambal. All indicating how closely the rivers on which they stand are associated with all that is most ancient and sacred amongst the traditions of Hindu India.

Alexander's retreat from the Punjab, B.C., 327.—The 3rd Century B.C. witnessed the rise of the Buddhist Empire, and the appearance of the Greeks under Alexander. In both cases the rivers figured prominently. In the one case they enabled the emperors to extend their conquests, and in the other they enabled a foreign invader, who had penetrated far into the heart of a hostile country, to gain the sea-board along which lay his safest and most expeditious line of retreat to his base of operations in Asia Minor. The story of Alexander's wonderful retreat from Jhelum to the sea-board down the valley of the Indus, when, with a fleet of over 2,000 vessels, escorted by a force of 120,000 men, he succeeded in extricating himself from the predicament in which he found himself on the banks of the Beas, is one deserving the special attention of students of Indian Military History, and an excellent narrative will be found in Mr. Vincent Smith's *Early History of India*.

Inland Communication under the Buddhist Empire.—One hundred and fifty years after the departure of the Greeks in the reign of the Buddhist Emperor Asoka, we hear of the State regulation of inland communications, including both roadways and waterways. The ordinary water routes were supplemented by roads running from the Capital at Pataliputra to the important cities, and the frontiers as far north-west as Kabul, and up the Panjkora valley; we thus read of a royal road running north from Pataliputra, the course of which is marked by five great monolithic pillars, through the districts now known as Mazufurpur and Champaran, whence it is supposed to have shaped its course along the base of the Himalayas, where there still runs an ancient pilgrim route. To this day, as far north as

the Malakand, there are the remains of a great Buddhist strategical road, which is said to be unsurpassed for the correctness of its alignment,— and these old Buddhist roads probably mark the lines of the most ancient pilgrim routes known in India.

Hindu and Moslem Dominion.—The succeeding Hindu Dynasties, the expanse of whose territories never at any time equalled that of the empire of Asoka, seem to have contented themselves by limiting their dominions to the Gangetic Valley, and up that of the Brahmaputra as far as Kammup in Assam. It is not, in fact, until we reach the Moslem period of Indian history, that we begin again to get detailed information of these great combined lines of inland communication. With the assistance of the Ganges boatmen, the Mohammedans pursued their conquest eastward, into Eastern Bengal up to the confines of Assam. The Grand Trunk road, which now runs across the entire peninsula, was the first of their supplemental lines of communication, and this is generally attributed to the Afghan usurper Shershah.

Moghul Military Roads.—During the reigns of the Emperor Akbar, and his successors, we again receive practical and ample demonstration of the manner in which the central water routes were supplemented by a series of strategic roads, connecting the Moghul capitals at Agra and Delhi, with all parts of the Empire. The chief of these military roads were :—

- (1). The road leading west and north through the Punjab into Afghanistan and Kashmir—the present Grand Trunk Road.
- (2). The road to the south through Gwalior and Ujjum to Birhanpur and Surat, and thence to Golconda, and the Deccan.
- (3). On the creation of the Vice-Royalties of Bengal and Oudh, roads were similarly constructed to the capital of both provinces, one running down parallel to the main stream of the Ganges, as far as Monghyr and the Rajmahal Hills, and the other across the Ganges—Jumna, Doab, via Fattigar to Lucknow.

All travellers' narratives of the day agree that the Moghul Empire was held together by its military highways, which so completely linked up the river systems in the northern half of the empire, no less than by the strength of its armies. An extraordinarily efficient service of land transport was now developed by the Brinjaras, or professional carriers of India, who were handsomely subsidised, and who bred, and maintained, enormous herds of pack bullocks, and who in return for certain privileges and remuneration undertook the whole of the supply and transport agency of the Moghul armies; along with this, an equally efficient service of foot messengers, or "Harkaras" was established,

who used to convey the Imperial Post to the furthest confines of the Empire with incredible despatch. Vehicular transport also received an impetus, and as the country settled down, a considerable land traffic sprang up which had not formerly existed.

The Moghul "Admiralty."—This did not, however, affect the river systems, which always remained the main central lines of inland communication of the Moghul Empire, and the Imperial Statutes provided for the careful preservation and protection thereof. The navigable waterways were placed in the charge of a highly organised Department of the Imperial Admiralty, under the control of a special officer, who bore the dignified title of "Mirbahr," or "Lord of the Sea," who, amongst other things, was specially responsible for the construction of all military and public bridges, the provision of boats and flotilla for military and other purposes, and who therefore, had complete control over all river craft.

The Protection of the Waterways by the Moghuls.—State taxation and dues on the waterways were limited to small harbour charges and registration fees on trade boats, and as a result, important marts sprung up at numerous points on the river, and the greater part of trade and military transport passed up the waterways, the importance attached to which, as is indicated by the steps taken to protect the waterways at all strategical points along the main lines of the rivers. Hence, the Moghul fortresses at Attock; Lahore on the Ravi; Firozpur and Phillaur on the Sutlej; Delhi, Agra, Etawah, and Kalpi on the Jumna; Fattigar, Allahabad, Chunar, and Monghyr, on the Ganges; Decca, Mimensingh and Sylhet on the Brahmaputra in Eastern Bengal, and so forth. At all of which points it will be noticed how completely these Moghul block houses not only commanded the rivers, but also the important roads which there impinged on the central lines of communication. This represents more or less, the state of affairs up to the dissolution of the Moghul Empire.

History under British Rule prior to the Mutiny.

Advent of the British in Northern India.—We ourselves were the next to appear on the scenes, but, unlike all previous invasions, the tide this time runs up from an opposite direction, and works its way up from the sea. The objective, however, was precisely the same, and a study of the series of excellent sketch-maps in the Imperial Gazetteer Atlas of India, showing the gradual advance of British conquests in Northern India between 1765 and 1857, will bring home to you more clearly than any mere word descriptions the close relations the Gangetic waterway bears to the advance of the British forces into Hindustan, and the Punjab, and which may be concisely reviewed as follows.—

General Situation in 1764.—The operations initiated by Clive in 1757 resulted in due course in the extension of our boundaries up to the confines of Behar. The defeat of the Moghul forces by Major Munro, at the battle of Buxa in 1764, laid Oudh at the foot of the conquerors, and brought the Mogul Emperor a suppliant to the British camp, and established British influence as far as the head waters of the Gangetic plain.

1st Maharatta War, 1779-80.—The fortress of Chunar then constituted our furthermost frontier post, and from this advanced base, Warren Hastings was able in 1779-80 to throw the whole weight of the Bengal Army into the scale against the flank and rear of the Maharatta Confederacy, who were, at the time practically holding their own against the armies of the Bombay Government in Western India, and there can be no question that it was in a great measure due to Brigadier General Goddard's famous march across the whole peninsula, from the valley of the Ganges to the western sea—combined with Captain Popham's equally successful operations in 1780 against Gwalior—that the first Maharatta war was brought to a successful termination. The rapid decline of the Moghul power, and the encroachments of the Maharratas, Jats, and other predatory clans in Hindustan, combined with the inability of the Nawab of Oudh to fulfil engagements, led, within the next decade to the extension of direct British control as far up the Doab as Cawnpur and Fattigar, and thus the fortress of Allahabad, situated at the confluence of the Ganges and Jumna—the key of the whole Gangetic Valley—passed into British occupation.

General Situation in 1800.—Such then, generally, was our position in India at the beginning of the 19th Century. Meanwhile, the Maharatta Confederacy had once again been gathering strength in the western and central regions of India, and their repeated acts of aggression, showed that a struggle with this power for the domination of Upper India was imminent.

2nd Maharatta War.—This led the Marquis of Wellesley, who was then Viceroy, to prepare the plans for the operations of 1803, in order to secure British supremacy in Northern India. The general plan and adequate provision of resources, which included the organization of arsenals and advance depots at Allahabad, Cawnpur, Fattigar; and the maintenance of the lines of communication with Bengal, were due to the Marquis of Wellesley.

Of the two armies which marched against the Maharatta Confederacy, the Grand Army of Hindustan, under Lord Lake, is the only one which for the moment concerns us. Without going into details, it will be enough to state that he marched across the Doab from Cawnpur to Delhi, capturing en route the important Fort of Alligar, and fighting a pitched battle under the walls of Delhi, in which he totally defeated the Maharratas, and thus established British supremacy in the capital

of the Moghuls, and extended British protection to the Moghul Emperor. A special feature in this campaign was the efficient transport work done by the Brinjaras on land, and by the water transport between Allahabad and Agra, and again between Delhi and Agra, when Lord Lake transported the whole of his siege train, and heavy military stores down by water.

Nepal War, 1814-15.—The succeeding period of fifty years is one of great administrative activity and change in Northern India. In 1814-15 broke out the Nepal War, which, after varying success, resulted in the overthrow of that power by Sir David Ochterlony, whose campaign up the Sutlej Valley is one of considerable interest, in that it was conducted along one of the routes under examination to-night, and more especially because it resulted in our acquisition of the country on which now stands Simla—the summer capital of the Empire.

The Upper Provinces, or the ceded and acquired tracts, as they were called, were next formed into a separate Lieutenant-Governorship, known as the North-West Provinces, with their capital at Agra, and the greatest activity was displayed in the development of the newly-acquired districts.

Arsenals were formed at the advance base at Delhi and Agra, and a gun carriage factory established at Fattigar. The province was strongly garrisoned, and river communication with the base in Bengal was maintained by a regularly appointed service, from Calcutta to Gurmuhtesan on the Ganges, and Delhi on the Jumna. This section of the Empire had peace from this time onwards, till the outbreak of the Indian Mutiny.

Burmah War, 1824.—In the Eastern section of the Empire, however, further acquisitions of territory were made in 1824, in the shape of the conquest of the Assam Valley from the Burmese—an expedition conducted almost entirely by river up the Brahmaputra and Salween valleys, in which gunboats played an important part.

Improvements in Inland Communication in Upper India.—Meanwhile, Bengal and the Upper Provinces were being rapidly settled. The Grand Trunk Road communication from Delhi to Calcutta was completed and improved. Roads were opened out in all directions, connecting District Headquarters with each other, and with the Provincial Capitals.

In 1835 Lord William Bentinck, in view of the altered political requirements of the situation, decided to make Simla—then on the very north-western confines of the Empire—the Summer Headquarters of the Government. This necessitated the devising of more expeditious methods of travel and communication, than that hitherto provided by the river boat service, or "Dholi dak," and the Postal Runner Service by land. The main roads were therefore metalled—and we now first hear of our old friend of the pre-railway days, the "Dak Gharri"—

a regular post service being established along the Grand Trunk Road, and along other principal roads. With the improvement of the roads, and the better protection of life and property, a considerable vehicular traffic sprang up, and some of the passenger traffic was, at all events, diverted from the rivers, where the progress, though steady, was slow. To Lord William Bentinck also belongs the credit of having initiated a scheme for the introduction of regular steam navigation service on the rivers in India.

Introduction of Steam Navigation.—In 1832 he proposed that a steam service should be introduced on the Ganges; the object of the establishment of the steam boats was the greater facility of commerce—and better inter-communication—that would result between the extremes of the Empire. In 1834 this service came into existence, and became the principal means of transit as far up as Allahabad. These earlier steamers were Government owned, but subsequently, in 1844, the fleet passed into the hands of private companies. In 1844 Sir Charles Napier similarly initiated steam navigation on the Indus. During the Punjab campaign of 1846-49, the Gangetic waterways were once more the scene of ceaseless activity, and facilitated the despatch of stores and reinforcements to the front.

With the overthrow of the Sikhs, the whole of the Northern Indian Plain—or the second region of our lecture to-night—passed into British occupation. Meanwhile, other great economic changes were in progress in Hindustan and the Gangetic Valley. The Civil Governments of each Province were rapidly developing the resources of the country, and projects were on hand, which were destined to revolutionize in the short space of twenty-five years, the entire systems of locomotion and transport in India.

In 1840 the Engineers of the East India Company laid the foundations of the Gangetic Irrigation system, which for boldness of design and execution is still unsurpassed in the world, and will for ever form a lasting monument to the genius of Sir Proby Courtly. It was commenced in 1842 and completed in 1855—when it was opened by Lord Dalhousie.

The Ganges and Jumna Canals diverted the waters of these rivers from their natural channels on to the plains of India. The immediate result of this, so far as the river was concerned, was that water transport on both rivers above Allahabad was seriously affected.

Creation of the Indian Public Water Department.—Provincial and district roads were next further improved, metalled, and extended, resulting in a further transfer of traffic from the rivers to the roadways, and in 1856 the great Public Works Department of India was brought into existence, which had placed in its care all matters appertaining to roads, buildings, and irrigation, though inland navigation appears to have been omitted from the category; yet it seems that for a while

special officers were retained on the Ganges and Jumna to keep open channels for navigation.

Introduction of the Electric Telegraph, 1854.—The next great innovation in communications was the initiation and development by my own grandfather—the late Sir William O'Shaugnessy—of the Indian Telegraph system. Commencing in small beginnings around Calcutta, it had, fortunately, by the beginning of 1857 linked up the centres of Government, and the chief military stations inland, and it was along these wires that the first news of the outbreak of the Mutiny was flashed.

Introduction of Railways, 1856.—In 1856, also, Lord Dalhousie, turned the first sod of that mighty railway system of India, which now spreads like a close-meshed net in all directions over the Empire, but which in 1857 had only worked its way up to Raniganj, 100 miles above Calcutta. This then, was the situation in Northern India when the Indian Mutiny broke out in May, 1857, when the waterways of both the Indus and Gangetic systems once again contributed in no small measure to the ultimate success of the operations, by enabling the Government to despatch reinforcements and munitions of war up from the sea—both by the Indus, Sutlej and Gangetic valleys.

THE INDIAN MUTINY.

General Situation in 1857.—The Mutiny started at Meerut on the 10th May, 1857, and spread with astonishing rapidity throughout the Bengal Army in Northern India. The suddenness of the outbreak, and the rapidity with which it spread—except in a few isolated instances—seemed completely to paralyse, for a space, the authorities—both civil and military.

Important Political Centres held under Control.—With proverbial British luck, however, there happened to be the right men for the situation in three of the most important political centres of the country. John Lawrence in the Punjab; Spankie and Robertson in Saharanpur—in which district is situated Hurdwar; Brasier and a handful of Eurasian soldiers at Allahabad and Chunar; Gubbins, Tucker, and Neill at Benares; men whose names will always stand foremost amongst those who, when the crisis came, successfully maintained their control over these centres of first-rate political importance. For had the Punjab thrown itself into the balance against us, and had the "Pandas" and "Parohits" of Hurdwar, Pryag and Kashi issued their mandates, the disaffection would have spread to the entire Hindu nations of India, instead of being confined, as it ultimately was, to the disloyal regiments of the Bengal Army, supplemented by the "budmashes" or bad characters, who were encouraged to join by the breaking open of the jails, and by the adherents of such Zemindahs as had grievances, imaginary

or real, against the British. Several phases and painful episodes connected with this war furnish us therefore with much food for earnest reflection. It will, in any case, bring home to us clearly the wisdom of the Moghuls in the forethought displayed by them in holding fast to their waterways, the careful measures they took for the control of the river craft, and the protection of their central lines of communication, for it was round these very fortresses in the Gangetic Valley in Hindustan, that the storm of the Mutiny ultimately centred and raged most fiercely. Very fortunately for us, the forts and magazines at Ferozpur and Phillaur on the Sutlej, and at Allahabad—the key to Hindustan—were just secured in time, whilst Akbar's fortress served as a secure refuge at the seat of the Provincial Government in Agra. The danger involved in leaving such centres of political importance unguarded by British troops was exemplified in the case of Delhi, which at the time, besides having an important arsenal, was still the Imperial City of India, with a nominal Emperor in residence, who served as a central rallying point for the insurrection.

Effect of Mutiny on smaller Civil Stations.—The outbreak fell heaviest on the small and helpless British communities posted in isolated districts at a distance from the central line of forts, who were mostly all killed before they could reach these places of safety. Then, again, in the case of Cawnpur, and Fattigar, we have instances indicating the necessity, not only for having some defensible ports on the rivers, but for exercising control over river craft and waterways as well.

Lessons of Cawnpur and Fattigar.—Had the old Moghul fort at Fattigar—which served at the time as a gun-carriage factory—been in a good state of preservation and properly equipped, the Europeans who finally took refuge there might very possibly have held out till relieved from Agra. Similarly, had the strong enclosure containing the magazine and arsenal on the river bank at Cawnpur been seized and defended, instead of the entrenchments, the whole history of the Mutiny might very easily have been altered. In either case, the dangers to be incurred in having finally to resort for escape to a river denuded of its water supply, with the river craft thereon of a prehistoric type, and in the hands of the enemy, could not have been more painfully brought home to us than in the story of the untold horrors undergone by the fugitives who attempted to escape from both places by river—and of whom, all but a very fortunate few fell easy victims to a merciless and blood-thirsty enemy.

Influence of the Navigable Waterways on Subsequent Operations.—But with the Punjab and its chiefs loyal, in the firm, strong grasp of Sir John Lawrence, and with the forts and arsenals at Ferozpur and Phillaur

secure, the British were able to advance on Delhi from Ambala and the Punjab without delay, and throughout the subsequent operations, besides the reinforcements which Lawrence poured down from the Punjab, the Indus steamer and boat services conveyed vast quantities of military stores from Karachi to Ferozpur, and thus materially expedited the despatch of the great siege train, with the aid of which Delhi was eventually captured on September 15th, 1857. Similarly, the fort at Allahabad once again served as an invaluable advance base of operations for the relieving force from Bengal. Reinforcements, brought up by sea from Madras and China, were despatched without delay up country. The Government chartered the entire fleet of the India General Company, and every steamer and flat that could carry a white soldier or a gun to the front was eagerly pressed into the service, and it is on record that in one instance a steamer even operated as far up as Cawnpur. Throughout 1857-58, therefore, the Indus-Sutlej and the Ganges water routes were the scenes of ceaseless activity, and but for the assistance the steam flotillas on these rivers afforded as a means of transport, the revolt must have extended for a considerable period beyond that actually taken in its suppression.

Strategic Value of the Irrigation Canals.—Finally, the value of the new irrigation canals as possible strategic waterways, was exemplified in the facility afforded by the Ganges and Jumna canals for getting supplies for the use of the Delhi field force. This was done most successfully by Mr Spankie, the magistrate of Saharanpur, who not only more than held his own in his district throughout the Mutiny, but rendered further valuable service by despatching regular convoys of provisions, etc., by boat down the Ganges canal to Delhi.

These and many other such lessons as to the utility of navigable inland waterways in the event of internal commotion and strife are to be learnt by a careful study of the Indian Mutiny of 1857.

Development Since the Mutiny.

Rapid Development of Railway Systems.—The experiences of the Mutiny naturally gave an impetus to projects designed for the improvement of all communications from the interior to the seaboard in India, and the construction of strategic railways from both coasts was pushed on with renewed vigour, but the original policy of working both railways and waterways in relation to each other was lost sight of. The steamer services now became the carriers of railway material along the main lines of route for the Scinde-Punjab, East Indian, and Oudh and Rohilkand Railways, and other lines in Northern India, and it was not long before these railways, which the river services had helped to construct, became their most formidable rivals, both on the Indus and Ganges.

bon Development of Irrigation Schemes.—Meanwhile, also, along with the railways, the increasing demand for measures for the prevention of famine resulted in considerable extensions in all directions, but specially in the Punjab and Hindustan, of the irrigation systems. The questions of irrigation and navigation were then made the subject of a special inquiry in 1863 in the course of which Sir A. Cotton, R.E., drew attention to the short-sighted policy of destroying the natural waterways and making canals solely for the purpose of irrigation. He advocated the adoption of schemes which would provide both for irrigation and inland navigation. His recommendations, however, (which as a matter of fact hold good to this day) were never adopted, and thus it now comes about that the navigable waterways in Hindustan and the Punjab have been denuded of their water to a distinctly dangerous extent, and that only one-quarter of the aggregate lengths of irrigation canals have been made navigable.

River Traffic Crippled.—As a result of the combined efforts of railways and irrigation, the Ganges steamer service up to Allahabad ceased in 1863, when the entire fleet was transferred to the Brahmaputra, where the rapid growth of the tea industry of Assam required improved means of communication to the sea-board.

From 1860, when the first regular steam service to Assam was started, to 1903, when the Assam-Bengal Railway ran its first through train to Dibrugarh, the Province of Assam and Eastern Bengal and Assam were wholly served by water, and these, with the Gangetic valley up to Ajudhia, are now the only portions of the whole of the river systems we have passed in review this afternoon, on which regular inland steam flotillas are in existence. The country boat traffic on the Ganges and Jumna and on the Punjab rivers has likewise extensively depreciated, and thousands of once prosperous river folk, who used formerly to find honest employment on these waterways, have been thrown out of work, and have had to resort to other means to obtain a living, and have, in some instances, been driven in whole communities to live practically by the commission of crime. Those that still ply their trade have to make long voyages annually down to the Deltas to obtain employment. A rough enumeration made of the country boat trading fleet in the Western Provinces and Bengal in 1906 showed that there were over 60,000 private owned country boats, employing something like 200,000 men, still trading on the combined Brahmaputra and Ganges river system.

Rivers in Campaigns Subsequent to the Mutiny.

Since the Mutiny the rivers in Upper India, except those of the Brahmaputra system, have not played an important part in the conduct of military operations. In Eastern Bengal,

however, the Brahmaputra steam flotillas have been requisitioned regularly for military purposes, for the transport of troops, etc., in most of our frontier campaigns in that quarter. Thus in 1864 they facilitated the concentration of troops for the Bhutan Campaign, in 1871 for the Lushai Expedition, in 1879 for the Naga Expedition, and again in 1891 for the Manipur Expedition, when troops were sent by water both to Silchar, in the Surmah Valley, and Golaghat on the Brahmaputra, from which points two columns made a simultaneous advance on Manipur. On our north-western frontier our recent campaigns, though unconnected in any way with the navigable channels, have certainly been of special interest in regard to the upper reaches of several of these rivers. The Black Mountain Expedition of 1888, the Chitral Expedition of 1895, the Malakand Campaign of 1898, and lastly the Military Mission to Tibet in 1902, have all resulted in an immense increase to our knowledge of the river valleys and passes which formed the scene of operations in each case, and have lifted the veil of mystery which hung for so long over many of them.

Present Day Dimensions of the Indian Railway Systems.

Our great network of railways has meanwhile spread out in all directions, and specially so in the area now under examination. During the last fifty years which covers the period in which the changes I have described have taken place, the railways have increased in India from the 100-odd miles in 1857 to a mileage of 31,490 in 1910.

General Effect of Modern Developments on Indian Canals and Transport Professions.

This rapid development of railways and canals has now resulted not only in the depreciation in value of the waterways as strategic routes, but has produced the most remarkable effect on the old Indian professional carrier and transport organisations. The Brinjaras, with their immense herds of excellent pack bullocks, the "Shutarwans" of the Punjab and Hindustan, with their long strings of camels, and the "Kahars" or bearer caste of India, have either actually all disappeared, or are disappearing very fast; as also have the horse Daks and other forms of vehicular transport. Of recent years also the supply of draft oxen in the country, from one cause or another, has been seriously affected, and the horse and pony breeding industry has received a severe check by reason of the importation of horses from Australia. Carts, draft, and transport animals are now therefore only kept by cultivators to the extent required for their own purposes, all of which materially adds to the difficulties of the situation when operations have to be conducted away from, or without the aid of, the railway systems, and when the regular service transport has to be supplemented from what now remains of the natural resources of the country.

Unreliability of the Railway Systems.—Moreover, there have been indications of late that, gigantic as the Indian railway system is, it is unable even in times of peace to meet all the demands of the country satisfactorily. Apart from the disadvantages of difference in gauges, necessitating trans-shipment of material, and single lines for the greater part of their lengths, the Indian press has of recent years, for instance, frequently complained of a shortage of rolling stock, resulting in delays in transit of goods at harvest time, and of congestion of the passenger traffic on occasions of "melas" and other great gatherings of the people.

Then again, we have had excellent object-lessons in the danger of relying too much on a railway system which has monopolised the entire traffic of a country, first in the hopeless confusion and congestion which occurred at Delhi on the occasion of the Imperial Assemblage of 1902-1903, and next of the disastrous effects which might be produced by a well-arranged interruption of the railway service, as was occasioned by the strike on the East Indian Railway in November, 1908. Finally, when we consider the ease with which a railway and electric telegraph lines can be destroyed, and the extent to which the knowledge of the use of explosives, and of all details regarding railway work and machinery, mechanics, and construction generally has improved amongst even the ordinary coolie or working classes in India, the folly of placing too blind a faith in the stability of the Indian strategic railways or telegraphs, with no supplementary lines of communication to fall back on, will no doubt now be fully realised.

Summary of the Situation in Regard to the Indian Navigable Waterways.

To sum up the situation, therefore, so far as the waterways are concerned, it will be seen that although the mileage of the navigable waterways in Northern India alone is almost equal to that of the entire railway system of India, nevertheless, throughout the Punjab and Hindustan the river routes have been stamped out for want of proper river conservancy, and the value of these waterways as trade and strategic routes has been allowed to depreciate to a most dangerous and undesirable extent. Perhaps the simplest way to indicate the exact economic position now occupied by the navigable waterways in India would be to state the case in figures—both as regards India itself, and in comparison with other civilized countries, when it will be seen that during the past half century, whereas :—

£235,000,000 have been advantageously spent on the railway systems, and

£50,000,000 spent (or allotted) on irrigation schemes,

£5,000,000 only have been expended on waterways, and of

this over £1,000,000 relates to expenditure on coast canals in the Madras Presidency.

The first two figures are not too great, but the third is surely far too small, more especially when we contrast it with the figures showing the expenditure incurred on the improvement of inland navigation during the same period by other nations, viz.—

France (1871-1900) £27,640,000.

Germany (1889-1899) £14,950,320.

Austro-Hungary (1848-1900) £38,600,000.

Then, again, take the case of the Punjab rivers alone.

The entire basin of the Indus and its tributaries covers something like 350,000 square miles—an area considerably larger than that of the German Empire in Europe. Its navigable waters, which originally aggregated a length of something like 2,250 miles, capable of being worked permanently by country craft of the larger size, now only amounts to approximately 1,450 miles, of which only 800 are at present fit for navigation by steamers of light and shallow draught; but this single reach of 800 miles is in itself almost equal to the entire length of waterways navigated by steam vessels on the Rhine, Oder, and Elbe in Germany put together; but whereas the Rhine (which is a smaller river than the Chenab), alone disposes of something like twenty million tons of merchandise annually, the annual maximum river-borne traffic of the whole of the Punjab system of rivers registered at Sukkar, amounts, at the most, to 48,000 tons only, and the same period of time that has witnessed the gradual disappearance of the Indus Steam Flotilla has seen the size of inland vessels on the Rhine increase from a carrying capacity of 700 tons to as much as 3,580. This striking instance of improvement on the one hand, and retrogression on the other, furnishes a peculiarly instructive object-lesson to all those interested in the question of the development of our natural lines of communication between the interior and the sea in this part of our Indian Empire.

And yet all the countries I have mentioned have railway systems as highly developed as are ours in India. But in each of them, as well as in America, inland waterways are under the direct control of the War Department, whereas in India the inland navigation is in charge of the provincial branch of the Public Works Department, in whose schedules it appears under the head of "Minor Works."

V.—CONCLUSION.

And now, what are the conclusions to be drawn from the evidence which I have now placed before you of the history, the natural potentialities, the present-day condition, and future

possibilities and strategic worth of these river systems in Northern India?

From the geographical features presented by the tract of country under review, it will be seen how completely the three river systems link up the connections between the highest and most distant passes over the Himalayas and the sea on both shores of the Empire. Their upper courses are therefore of considerable strategic value, and have a distinct bearing on all questions connected with border defence in the first or Himalayan region.

It is an open question, however, as to whether much can be done to strengthen the strong barriers nature has already provided on our northern frontiers. Certainly no strategic advantage is to be gained at present by pushing military roads up these valleys. Nature might here be well left to itself in most instances, but the point in their particular connection to remember is, that history shows that these upper valleys, hitherto regarded as impassable for troops, are as a matter of fact by no means impregnable, and that, under the circumstances, the occupation of the Tibetan table-land by an aggressive military power would be a far more serious menace to the Indian Empire than any danger which has so far arisen on our north-western frontier, and the times do not appear to be distant when our outposts of observation, at all events, will have to be extended to these gates of India on the north and north-east in the same manner as has been the case on the north-west. This may possibly necessitate a redistribution of troops in the First Region or Himalayan Area, in which case it will probably be necessary to place the cantonments so as to command the upper reaches of these rivers.

Once the rivers debouch into the plains—or Second Region—their strategic value develops immeasurably. From the peculiarity of the configuration of the watersheds the rivers command the whole of the interior of the plains, and are, therefore, of first-rate importance in all questions relating to the internal defence of the country. The Indus, for instance, serves the entire western, as the Brahmaputra serves the north-eastern frontier, and if the navigable channels of the three systems combined were developed and conserved, they would provide through lines of communication from the sea, from whence must come our reinforcements, to the very base of the Himalayas along the whole length of the northern plain limit, and in touch with practically all the great cantonments and arsenals in the interior. A direct transhipment service at the ports between sea-going and inland vessels, as is in force on all the Continental rivers, would therefore facilitate the transport of troops and materials of war throughout the whole of Northern India.

And now as to matters appertaining to questions of internal defence. So long as we are at peace and not involved in

general complications in India or elsewhere, the present arrangements will no doubt suffice, and will enable us to deal effectively with isolated disturbances, but the times have changed somewhat since the days of the Mutiny of the Bengal Army. New forces are now at work which alter the whole situation, and it would be as well not to set too much value on the supposed indifference of the people, as indicated by the apathetic attitude adopted by them during the Sepoy revolt. Any scheme, therefore, which contemplates the protection of an entire system of railways must, I think, in view of past history, be rejected as faulty in principle and impossible in practice. At the most we shall only be able to extend protection to the single main lines running close to and parallel with the rivers from the interior to the ports. The inherent weaknesses of the Indian railway systems, traversed as they are in almost all cases by the river systems, are apparent, and need not, therefore, be dilated on, and it is obvious that in the event of our being involved in a general rising in India, we shall have literally to clear for action, and all lines that are not of vital importance will have to be abandoned.

Now, therefore, more than ever in the history of our connection with the country, is it necessary to strengthen communication in the interior, and our control at all centres of political importance, and supplement our main trunk railway communications with an effective system of central strategic waterways. From a few plans which I shall display shortly, you will see how important a part the rivers on which these centres stand can play in matters connected with the control of some of these large cities wherein the elements of disorder lie very close under the surface.

Then, again, the maintenance of deep navigable channels in the rivers, combined with proper control of the river craft and ferries, will divide the country into great blocks, each of which would be capable of isolation in case of local disturbances, and in the Riverain population we have a people who have very little in common with other communities in the countries through which the rivers pass. They are wedded to their boats, and their waterways, and their entire interest lies in the development of the rivers. They have suffered the most of all by recent changes, and there is no reason why, if the river trade was developed, this most useful, but little-heard-of section of the population, instead of being as they now are—ruined and discontented—should not become a valuable addition—as they formerly were—to our inland carrier services in Northern India.

Finally a resuscitation of the Moghul central block-house system for the protection of the combined strategic rivers and railways will, in view of the past, be a wise measure. The whole series of the old Moghul fortresses on the rivers should be restored, brought up to modern requirements in regard to equipment, and garrisoned; this, along with efficient adminis-

tration and policing of the water routes connecting them, would ensure the safety of the inland waterways, and would contribute materially towards the safety of the adjoining main railway lines as well. This central line of forts would similarly have an important bearing on other aspects of the problems of internal defence, as indicated by our experiences of the Mutiny, not the least important of which appears to be the fact that this line of interior fortified posts seems to indicate the natural line to be followed for the wireless telegraphy system with which it would be wise to supplement the existing wire system. The two functions of defensive and wireless telegraphy posts might therefore be advantageously combined in the scheme proposed; and the adoption of this plan would give a legitimate opening for the employment as garrison troops or military police of the Eurasian or Anglo-Indian community—as they are now called—of India, who have done good service in the past as soldiers in India, and might with advantage once again be so employed, in some instances, in relief of regular British troops, whose presence will be more useful elsewhere.

It now only remains to be considered whether this can be done, or whether the waterways referred to are past reclamation. I think certainly not. The Gangetic, Jumna, and Chambal valleys are still capable of development and reclamation, and Sir Alfred Cotton's recommendations of 1863 still hold good. In any case, any general scheme of inland navigation which may be decided on, should certainly include navigation on the canals. The Punjab rivers, by reason of the flatness of the plains through which they flow, seem to present the most formidable difficulties, and here the canals would affect the question more than in any other part of India. In Eastern Bengal and Assam the waterways provide us with all that is necessary. It is perfectly evident that no military operations could be conducted in this part of the Empire without the aid of the waterways, and it therefore only remains now to turn them to our best advantage. The task is now no doubt a stupendous one, but not beyond the resources of the Empire, and the difficulties in connection with the formulation of a practical scheme for inland navigation in Northern India are not apparently insurmountable, and the interests of the State demand that there should be no further delay in a careful consideration of the whole subject. For, quite apart from questions of military communications and transport, it is in the natural potentialities of the waterways I have spoken of that we shall find the keys to the solution of many of the economic problems with which we are at present confronted in India. Therein lies the latent power of all great electrical and hydraulic schemes of the future—the possible solution of difficulties connected with water levels in the wells in Upper India; reclamation of waste land and creation of fodder reserves along the river valleys; the relief of pressure in the over-populated

tracts, by the provision of cheap and easy transport to more sparsely populated regions; the easy transport of heavy bulk goods, and very possibly even the question of monsoon currents across the plains. The possibilities are immense, and the subject only needs consideration in a broad-minded and liberal spirit.

Many of the changes I have referred to, no doubt, were inevitable, but we must not allow the pendulum to swing too far. And whilst we cannot too strongly emphasize the immense benefits which have been conferred on the country in most directions, under British rule, we must not forget that in regard to inland water communication there has under our regime been marked retrogression, and the interests of the State demand that there should be no further delay in the consideration of this important subject.

It will, in any case, I trust, be realised that these waterways are Imperial and not merely provincial assets, and that if they are to be developed and brought into line with the rest of our great system of public works in India all questions of competition, commercial, or provincial jealousy, must be set aside, for it is only by the economic development of these rivers, their strategic value will be brought up to that high standard of excellence which the military situation in India so urgently demands.

DISCUSSION.

Brigadier-General G. K. Scott-Moncrieff, C.B., C.I.E.: From the strategical point of view, a river may have value, either as a means of communication or as an obstacle. We have not heard from the Lecturer about rivers being obstacles to the advance of a hostile army, though that is very important. He has treated the subject entirely from the point of view of communication. It is on this aspect of the subject that I desire to say a little.

THE RIVERS AS MEANS OF COMMUNICATION.

As the head of the civil and military public works on the North-West Frontier Province, a few years ago, I had much to say about the utilization of the Indus and some of its affluents. During the Afghan War of 1879-80, the Kabul River was used for communication. The boatmen whom we employed there were chiefly men from Attock, descendants of the boatmen who had been utilized by the Emperor Akbar, and probably at an earlier period. I heartily agree with what the Lecturer said with regard to the importance of utilizing the services of these skilled boatmen. Many of them now are losing their opportunities of doing this special work, owing to the advent of railways and other means of communication. And that is a pity, from a military point of view, because we have found these boatmen of the greatest value to us for various purposes in war. With regard to the use of these large rivers for communication, it must be remembered that in war time they can only be utilized in one direction. The current in many of the gorges on the Indus and Kabul rivers is

such that it would be impossible to make use of them in the way, for instance, that the Peiho River, in China, was made use of, as a communication with an army which was moving either up or down the river. The whole question of communications on the North-West Frontier is of the greatest importance; and therefore, if it were possible to utilize these rivers as means of communication, it would be done. But it is only possible to make use of them in the direction of the current. The amount of power which would be required to take the baggage of an army against the current would be so great that it would be better to utilize the expenditure which would be necessary on other forms of transport.

DIFFERENCE BETWEEN EUROPEAN AND INDIAN WATERWAYS.

The Lecturer alluded to the fact that in India we are very much behind European nations in conserving our waterways; he has compared the Indian rivers with the Rhine and the Danube, but the circumstances and conditions are very different. For instance, on the Danube, one has at all seasons a more or less regular and constant volume of water, whereas in the case of a river like the Indus, the difference between the cold weather flow and that which obtains in the hot weather is enormous. In the hot weather, when the snows on the mountains are melting, there is a very great flow of water. To give an example of what the problem means, I may mention that the width of the bed of the Indus at Dera Ismail Khan is thirteen miles. During the hot weather the river extends more or less over the whole of that area; I do not say it covers the whole thirteen miles, but the waterway extends for nearly the whole distance. In the cold weather the number of channels or streams is probably four or five, the largest of which is not more than half a mile in width. It is only possible, therefore, to bridge the river during the cold weather. That is to say, that during the winter months there is a bridge of boats (or several such bridges) constructed across these various channels, which bridges have to be taken up as soon as the river rises in April, which is the month when the snows begin to melt. During the whole of the summer months traffic across the river has to take place by means of boats and flat-bottomed steamers. Further up the river, below Attock, and Kushalgarh, the river flows through a narrow gorge which, during the hot weather, has a current of enormous velocity. To bring to bear upon a river of that size, and with such irregularities, the same means of control as is brought upon the Rhine or the Danube, is practically beyond the power of human enterprise. It is true that the rivers of India afford, in time of war, a valuable means of communication between certain points, but I submit that this is subject to great fluctuations, owing to the varying conditions of the flow, and is only supplementary to other means of communication which we already have.

RAILWAYS AND WATERWAYS FOR MILITARY PURPOSES.

We have now a large network of railways all over the country, and in the Punjab and North-West Frontier there are lines more or less parallel to the lines of the rivers, as well as across them. It is true that the great rivers are crossed by the great arteries of the railway systems, but, again, these railway trunk lines are connected laterally by branch lines, and so it is possible by these lateral railways to concentrate troops at any point behind the great system of rivers independently of the fluctuations of the rivers—a very important point. The Lecturer mentioned canals, but deprecated the use of the river water for canals to the extent which is

now going on. It is true that in many of the large Punjab canals the water is entirely utilized during the cold weather (not during the hot weather, because there is then an enormous quantity of water surplus to requirements). But in the event of war or national stress, it would be possible to transfer the whole of the water from the canals to the original river bed, if it was necessary to do so. I think that by the system of control of the water which now obtains, the natural waterways of the country, can be just as well utilized for military purposes now as they could at any former time. What, however, does affect the question is, that the people of the country who are accustomed to manage boats, are not now so available for use as they were formerly. This is very serious from a military point of view, because military engineers have to construct in time of war bridges of boats with extemporised materials, and they want people who are accustomed to the navigation of rivers to build these bridges. These are all the points which I wanted to bring forward, and though I do not agree on all points with him, I thank the Lecturer for having brought the subject before us.

Major C. B. Simonds, R.G.A., said that he had recently returned from the fort of Allahabad (a photograph of which had been exhibited). This fort was a centre, both of Mahomedan and of Hindu interests. It contained a Hindu shrine, which had been there from time immemorial, and which had been allowed to remain by Akbar, who built the fort. He wished to emphasize the importance of officers stationed in places of this sort gaining the confidence of the natives, and letting them see that they were faithfully safeguarding the sacred relics of which they were temporary custodians; this would, he considered, do much towards allaying feelings of hostility and unrest regarding which so much had recently been heard.

Mr. Bramley, not wishing to reply, the proceedings terminated with a display of lantern slides intended to illustrate:—

The main features of the country traversed by the rivers in Northern India from their sources to the sea.

The close connection between the Inland waterways and centres of political importance—Mahomedan and Hindu—in the Gangetic valley.

The position and structure of the Moghul river fortresses.

The size and dimensions of railway bridges.

Types of river craft, river people, and river police.

Effects of floods on river craft and railways.



COMMERCE AND COAST FORTRESSES IN WAR TIME.

A lecture delivered to the Naval and Military Garrison in the Cape Peninsula.

BY LIEUTENANT-COLONEL W. R. W. JAMES, R.G.A.

INTRODUCTION.

THE attempt by a landsman to investigate such a complex problem may need some explanation, as at first sight it appears to be wholly a Naval question.

Since the separation of the Royal Regiment of Artillery those of us who were allotted to coast defence have been more and more isolated from the rest of the land forces, and been compelled to recognise that our lot is permanently cast in fortified ports.

It is therefore not unnatural to ask the question "Of what use is my branch"? And, if one is stationed in a commercial port, one's thoughts must naturally turn to the probability or otherwise of protection being needed for the harbours frequented by our Mercantile marine.

Most people believe that our commerce is unassailable.

They will tell you that as long as we possess the "command of the sea" no one can interfere with it, and that if we lose the "command of the sea" it is all over with the nation. This seems at first sight a fairly comprehensive answer, but it is less satisfactory when subjected to analysis by the light of history.

Doubts arise directly one tries to get a definition of "command of the sea" and a very small amount of study reveals these facts.

1. That command of the sea is something to be fought for. It cannot exist at the commencement of hostilities, if both belligerents have a Navy.
2. That, if command of the sea is understood to mean more than the power of transporting our land forces in comparative safety across the high seas, we never have possessed it nor are ever likely to do so.

No Naval engagement was more decisive than the battle of the Nile in 1798, and yet the *Leander*, a 50-gun ship, was captured in the Eastern Mediterranean by the *Genereux* whilst actually carrying the news of the victory.

After one has arrived at the conclusion that the problem cannot be answered in so simple a fashion, one is first completely bewildered by the mass of information available; and

secondly puzzled by the inextricable entanglement of the subject with the general conduct of naval war in the past. In our last naval war there was no sharp line of definition between Naval and Mercantile shipping. The larger merchantmen, especially East Indiamen, were armed, and defended themselves against privateers, and sometimes even against war ships, with varying success.

The existence of the privateers—commerce destroyers pure and simple—further complicates the attempt to elucidate principles. The privateer's aim was not primarily to inflict loss on the enemy but to enrich himself; still less was he concerned to end a war by which he threw. His operations cannot therefore be assessed by the standard of the regular cruiser, and yet his influence on the result of a war cannot be ignored.

It seemed therefore absolutely necessary, in order to reduce one's investigations to the scope of a lecture, to formulate certain questions, and confine oneself to the attempt to answer those.

The questions I have endeavoured to reply to are:—

- I. Would an attack on our commerce cause us sufficient injury to make it probable that those responsible for our opponents' naval strategy would adopt it either as a primary or secondary objective?
- II. Will the concentration of our fleets, for the purpose of crushing or blockading those of the enemy, afford all the protection necessary to our mercantile marine, or must special measures be undertaken?
- III. If special precautions are necessary are we in a position to secure by the means adopted so absolute a maritime preponderance on all our trade routes simultaneously as to frustrate any attempts on our commerce?
- IV. Can we on our part afford to ignore the injury we may do to our enemy by attacking his commerce, leaving its fate to be settled by the final result of the campaign?
- V. If circumstances oblige us to undertake special measures for the protection of our commerce, in what way will they affect His Majesty's Land Forces?

I.

WOULD AN ATTACK ON OUR COMMERCE CAUSE US SUFFICIENT INJURY TO MAKE IT PROBABLE THAT THOSE RESPONSIBLE FOR OUR OPPONENTS' NAVAL STRATEGY WOULD ADOPT IT EITHER AS A PRIMARY OR A SECONDARY OBJECTIVE.

I hardly think that in the present day it is necessary to argue that our country's very existence depends upon its sea power.

Mahan has gone to very considerable pains to show that a mercantile marine is the basis on which sea power must be founded, if it is not to be simply an exotic, and liable to wither

away. This is not however an original discovery of his. Brenton, himself an actor in the momentous strife that raised our national sea power to its highest pinnacle, was firmly imbued with this belief.

It was distinctly recognised by Colbert, the French statesman who urged the necessity of building up the sea power of France in the reign of Louis XIV. Is it not the keynote to German policy at the present day? Then surely an attack on that basis must be correct strategy, and the more vital sea power is to the existence of a nation the more sensitive she must be to any interference with its source.

Yet, after a first perusal, we put down Mahan's earlier works with the general impression that nothing really affects maritime warfare but the results of the collision of rival fleets. Whether he ever intended to convey this idea I do not know; perhaps not, but in any case, to give his works a just value when applying his deductions to our own country, we must remember that Mahan's object was to impress on the American nation the duty of building a fleet strong in proportion to her growing position amongst the nations; and that he had special difficulties to contend with. Geographically situated as the United States is, it is only by means of a fleet that she can make her voice heard, and also the loss of her mercantile marine in the War of Secession had taken place within the memory of her older commercial men, and had unduly impressed them with the possibilities of a desultory war against commerce carried on by improvised cruisers, and predisposed them to neglect the building up of a navy in peace time.

I used the expression "after a first perusal" advisedly, because, the more one attempts to follow Mahan's arguments, the more the doubt arises in one's mind as to whether, when he inveighs against any reliance being placed on commerce destroying, he is simply condemning desultory and unsupported action of single cruisers, or intends to include the concentrated efforts of organized forces combining commerce-destruction with a general attack on the combatant strength of the enemy. I think perhaps the real solution is that each case must be weighed on its merits, having regard to the general strategical situation.

Mahan's Early and Later Works.

It is an interesting study to contrast the later work of this writer with his earlier, and I fancy better known, works. Mahan published "The Influence of Sea Power on History" in 1889, and "The Influence of Sea Power upon the French Revolution and Empire" in 1892. In 1905 he produced another work "Sea Power in its Relations to the War of 1812." In it his views of commerce destroying appear to have undergone considerable modification. I will quote them:—

"It is desirable to explain here what was, and is, the particular specific

utility of operations directed towards the destruction of an enemy's commerce; what its bearing upon the issues of war; and how, also, it affects the relative interests of antagonists, unequally paired in the matter of sea power. . . . To nations having free access to the sea, the export and import trade is a very large factor in national prosperity and comfort; thence arises a large source of wealth, of money; and money—ready money or substantial credit—is proverbially the sinews of war . . . War is always a tight time for a country, a time in which its positive wealth, in the shape of every kind of produce, is of little use, unless by freedom of exchange it can be turned into cash for Government expenses. To this sea-commerce greatly contributes, and the extreme embarrassment under which the United States as a nation laboured in 1814, was mainly due to commercial exclusion from the sea."

"To attack the commerce of the enemy is therefore to cripple him, in the measure of success achieved, in the principal factor which is vital to the maintenance of war. . . . Money, credit, is the life of war; lessen it, and vigour flags; destroy it, and resistance dies. No resource then remains except to make war support war.

. . . In war, the primary object being immediate injury to the enemy's fighting power, it is not only legitimate in principle, but particularly effective, to seek the disorganization of his financial system by a crushing attack upon one of its important factors."

"But while this is the absolute tendency of war against commerce, common to all cases, the relative value varies greatly with the countries having recourse to it."

"It is a species of hostilities easily extemporised by a great maritime nation; it therefore favours one whose policy is not to maintain a large naval establishment."

"It opens the field for a sea militia force, requiring little antecedent military training. Again, it is a logical military reply to commercial blockade, which is the most systematic, regularized, and extensive form of commerce destruction known to us."

"Against commerce destruction by blockade, the recourse by the weaker maritime belligerent is commerce destruction by cruisers on the high seas"

"Granting equal efficiency in the use of either measure, it is further plain that the latter is intrinsically far less efficacious. . . Still, one can but do what one can. . . So in 1812 and the two years following, the United States flooded the seas with privateers, producing an effect upon British commerce which, though inconclusive singly, doubtless co-operated powerfully with other motives to dispose the enemy to liberal terms of peace. It was the reply, and the only possible reply, to the commercial blockade, the grinding efficacy of which it will be a principal object of these pages to depict." (Pages 283-288, Vol. 2. *Sea Power in its Relation to the War of 1812*)

How far the distinguished author had changed his real opinions during the thirteen years it is impossible to say. We must remember that the United States could master only 9 frigates to oppose to the most powerful navy in the world. Under the circumstances the task of writing a naval history, without giving considerable prominence to the action of the irregular forces, would be a task of considerable difficulty for the most versatile brain. On the other hand the United States Navy in 1905 was both popular and powerful; and Mahan may

have felt that the necessity of concentrating attention on the power of the battleship was less urgent, and that he could afford to give other factors in naval warfare the consideration they merited.

There are two ways of bringing a war to a successful conclusion. One is by the occupation of the seat of the enemy's Government, thus paralysing opposition, the other is by the process of exhaustion. Our country acting alone could never attempt the first method on a first-class European Power. As regards the second, she can only act by means of her navy against trade or oversea possessions; the extremities and arteries, not the heart. On the other hand if her enemy can attain a local maritime preponderance in home waters our country is at once exposed to a land attack made in overwhelming numerical superiority.

From this it follows that Britain must act at the commencement of a war on the defensive; that is, she cannot weaken her fleet in Home waters to such an extent as to give her enemy even a fair prospect of gaining a naval success, and although her fleet may force the enemy's to seek the protection of their base ports, yet she cannot bring it to action except on the enemy's own terms—thus the British fleet can be tied down to watching, and the initiative left to the enemy. These conditions have generally existed in all our more important wars. It is therefore essential to investigate the policy that has governed our opponent's strategy in the past; and also to consider any parallel cases, if any exist in the history of other nations.

Examples from British Naval Wars.

Mahan devotes much attention to the military value of commerce destroying. He shows that where single cruisers, not supported by squadrons or fleets, are relied on, the nation which has adopted these tactics has been invariably worsted in the end. He lays especial stress on our own misfortunes in 1667 when the Dutch entered the Thames; and quotes the reasoning that was advanced in support of the policy which led to this catastrophe from Campbell's "Lives of the Admirals."

"That, as the Dutch were chiefly supported by trade, as the supply of their Navy depended upon trade, and, as experience showed, nothing provoked the people so much as injuring their trade, His Majesty would therefore apply himself to this which would effectually humble them, at the same time it would less exhaust the English than fitting out such mighty fleets as had hitherto kept the sea every summer. Upon these motives the King took a fatal resolution of laying up his great ships and keeping only a few frigates on the cruise."

He contrasts the comparative success of the French from 1689-1697, "when France sent great fleets to sea and disputed the supremacy of the ocean," with the years 1702-1712 when they only maintained commerce destroyers, and again the year

1761 with the War of the American Revolution. There is no need to dispute either Mahan's facts or deductions. The very standard which he uses (pages 131-138 of "The Influence of Sea Power upon History") to assess the success of the combatants is the loss sustained by the adversaries' commerce. The true lesson to be deduced seems to be, not that commerce destruction is an un-important object, but that it will be most effective when combined with other warlike operations, and carried out by powerful fleets or squadrons.

I think however there are more lessons to be learnt from his pages than this. Mahan quotes Macaulay :—

" During many months of 1693, the English trade with the Mediterranean had been interrupted almost entirely. There was no chance that a merchantmen from London or Amsterdam would, if unprotected, reach the Pillars of Hercules without being boarded by a French Privateer; and the protection of armed vessels was not easily obtained." adds

" Why? Because the vessels of England's Navy were occupied watching the French Navy, and this diversion from them of the cruisers and privateers constituted the support which a commerce destroying warfare must have. A French historian speaking of the same period in England says :—

' The state of the Finances was deplorable, money was scarce, maritime insurance 30 per cent., the Navigation Act was virtually suspended, and the English shipping reduced to sailing under the Swedish and Danish Flags.' "

It must be remembered that this state of affairs occurred after the battle of La Hogue had established the maritime pre-ponderance of the English and Dutch allies, and when the numerical supremacy was greater than we can reckon on in our next maritime war. From this I think, we may fairly deduce that where an invasion is apprehended (Louis XIV was in 1692 prepared to attempt such an enterprise) and the enemy's fleet remains in port, our trade will be greatly exposed to hostile enterprise owing to the unwillingness of our Government to weaken our Home fleet on which our security depends.

The Maritime War 1779-1782 is worth considering in this respect. Great Britain was inferior to the allies, France and Spain. An invasion was again threatened, and yet we find both the allied fleets and our own entirely occupied in the attack and defence of commerce, and Mahan sums up as follows :—

" The injury to trade and military transportation by sea may be said to have been about equal on either side; and the credit for successful use of sea power for these most important ends must therefore be given to the weaker party."

This quotation is not intended to prove that the stronger side adopted the correct strategy. Mahan is very insistent on the weakness of the allies in not bringing the British fleet in

Torbay to action. It is merely to show how powerful an attraction this sort of warfare has for the average strategist.

It is a well known fact that Napoleon's efforts were ceaselessly turned against our commerce. That they failed is beside the point. What precautions we had to take to protect ourselves must be discussed later. It is sufficient at present to recognise that such a master of war never lost sight of, or relaxed his efforts against, the true source of British strength.

There is this point to be remembered in weighing the probabilities of a belligerent adopting any particular strategy. No statesman deliberately embarks on a war unless he considers there is a fair chance of ultimate success. Although he may recognise, as well as Mahan himself, that an attack on his opponent's commerce will not affect the ultimate issue, if his navy is destroyed, yet this knowledge will not prevent him from trying to draw his adversary into making some strategical blunder owing to the exasperation invariably roused by trade losses.

Imagine the position of an English Government in the present day of newspaper strategists, if, while our fleet was fully engaged in blockading our opponent's ports, a sudden raid was made to intercept the grain trade. That such a diversion is possible I propose to show later.

Commerce Destruction in the Civil War.

Before leaving this part of my subject let us glance at a case of a warfare against commerce in its most simple form. At the commencement of the American Civil War the Confederates had no navy and no mercantile marine.

The Federal Navy was employed in maintaining a blockade on the Southern ports. The Confederates hastily adapted merchant ships as commerce destroyers, and later on managed to get a few cruisers built in neutral ports.

Mahan puts the matter aside as having no ultimate effect on the war, though he treats it with more respect in his later work, but let us glance at the actual results achieved by these improvised commerce destroyers; the following extract from "Lossing's Civil War" seems to show that it was not lightly regarded at the time.

"At the beginning of 1864 the pirates then on the ocean had captured 193 American merchant ships valued at 13,445,600 dollars. About 1,000 ships were sold to foreign nations. Fully two-thirds of the carrying trade between the United States and Europe was drawn to British bottoms. At the close of the war the *Shenandoah*, in a cruise lasting from October, 1864, to August, 1865, captured 30 vessels, valued at 1,354,958 dollars."

The history of these events contains some lessons for us.

1. The superior navy was so tied to the blockade, which was considered of supreme military importance, that sufficient cruisers could not be spared to stamp out the pest.

2. The Confederates were able to inflict the damage they did in spite of lack of bases to replenish their stores or refit in.

3. They simply killed the mercantile marine of America, and, although the United States could survive the loss, Britain could not.

British Trade and the Declaration of London.

I think sufficient has been said to show that in the past belligerents have rarely neglected to turn their attention to the commerce of the enemy.

At no period of history have we or any nation been so absolutely dependent on our ocean borne trade. It is a matter of common knowledge that we never have more than a few week's food supply in the country, and many political economists have argued that our carrying trade is our most important asset on our national balance sheet. It cannot therefore be supposed that any strategist in the future will neglect to make use of any power he can turn against so vulnerable a possession as our mercantile marine. For confirmation of this opinion we have only to turn to the recent proceedings of the "Declaration of London." :—

An article in the "National Review," November, 1910, by Mr. Leverton Harris, M.P., points out how Articles 33 and 34, regarding food supply being treated as contraband of war, handicap us far more than the old accepted conditions. He shows very clearly that practically all food supplies in neutral ships, if destined for the United Kingdom, can be so considered. These rules were carried in spite of the opposition of our representative.

Article 49 still further extends the power of the commerce destroyer.

"A neutral ship, which has been captured by a belligerent war ship, and which would be liable to condemnation, may be destroyed, if taking her into port would involve danger to the safety of the war ship, or to the success of the operation in which she is engaged at the time."

The claim made by the Continental Powers to the unrestricted right to convert merchant ships into commerce destroyers on the high seas is very pertinent to the enquiry. Our representatives in vain protested against it at the London Conference. The mere fact of a refusal given on such an occasion emphasises clearly the views of our possible antagonists on the utility of such methods of warfare.

In order to show what a real danger exists in the opinion of our own Government it is worth while to quote Sir Edward Grey's instructions to our plenipotentiary at the Conference of London. (*National Review*, November, 1910, p. 406.)

"Apart from the important question of principle involved, there are two practical considerations which have chiefly weighed with H.M. Government in refusing to recognise the right to convert merchant ships into

ships of war on the high seas. One is the facility which such a right would give to the captain of a merchant ship qualified to act as a war ship, to seize enemy or neutral ships without warning."

"The other is that the enemy's vessels under the Mercantile flag, but suitable for conversion, would be able, as merchantmen, to claim and obtain in neutral ports all the hospitality and privileges which would, under the accepted rules of naval warfare, be denied to them if they were warships."

"Availing herself of these advantages, such a vessel, found in distant waters after the outbreak of hostilities, would be able to pass from one neutral point to another until she reached the particular point in her voyage where she might most conveniently be turned into a commerce destroyer."

We can now pass to the next question.

II.

WILL THE CONCENTRATION OF OUR FLEET FOR THE PURPOSE OF CRUSHING OR BLOCKADING THE ENEMY'S AFFORD ALL THE PROTECTION NECESSARY TO OUR MERCANTILE MARINE?

The best answer to this question is an examination of British dispositions during the Revolutionary War. It is admitted that never was our sea power more assured than during that period. Mahan tells us that, after the British fleets had established a preponderance over the masses of the enemy, the latter was reduced to commerce destroying.

"To these raids upon their shipping by numerous scattered cruisers the British opposed a two-fold system. The convoy system, the essence of which was to concentrate the exposed wealth of the country under the protection of a force adequate to meet and drive away any probable enemy."

He then tells us that, in order to guard those who were unwilling to incur the delays inseparable from the gathering together of vast numbers of ships, and also those which had the misfortune to be separated from their escort,

"Fast frigates and sloops of war with a host of smaller vessels, were disseminated over the ocean upon the tracks which commerce follows, and to which the hostile cruisers were therefore constrained."

"The forces, thus especially assigned to patrol duty, were casually increased by the large number of ships going backwards and forwards between England and their respective stations, despatch boats, vessels going in for repairs or returning from them, so that the seas about Europe were alive with British cruisers. To these again were added the many privateers, whose cruising ground was not indeed assigned by the Government, but which were constrained in their choices by the same conditions that dictated at once the course of the traders and the lair of the commerce destroyer."

In spite of these dispositions our losses were so great, that an Act, known as the Convoy Act, was passed in 1798, compelling the taking of convoys.

It should be noticed that this Act was passed three years after "the French formally abandoned the policy of keeping great fleets together and took to the *guerre-de-course*."

It will thus be seen that even against commerce destroyers acting singly careful measures of protection and the employment of large forces was essential.

Where such protection has not been provided the consequences have been disastrous. Speaking of the commencement of 1793 Mahan remarks :—

"At the outbreak of the war, Great Britain was taken unawares in India as everywhere: From September, 1793, till October, 1794, a single sloop of war was left to protect the vast expanse of ocean covered by the East Indian Company. Under these circumstances the losses were inevitably severe, and would yet have been more heavy had not the Company itself fitted out several ships for the protection of trade. An animated warfare directed solely towards the destruction and protection of commerce now ensued for several years."

Mahan then mentions how in 1805 Mr. Edward Pellew by his skilful arrangements afforded such security to trade that premiums fell to 8 per cent., with a return of 3 per cent. if sailing with convoy.

"But during the very period that these happy results were obtained by wisely applying the principle of concentration of effort to the protection of commerce, disaster was overtaking the trade of Calcutta, which lost 19 ships in two months through the neglect of its merchants to accept the convoys of the Admiral."

Operations of Suffren and Rodgers.

Losses were, however, even more severe in cases when attacks on trade were more systematically carried out. Suffren's campaign in Indian waters in 1782 is a good instance of this. In order to avoid having to take his ships to his distant base at Mauritius he equipped and re-victualled his squadron by preying on his enemy's commerce, with the result that insurance premiums went up to 15 guineas per cent., and this at a time when the rival fleets were not very unequal in strength.

The operations of the American squadron under Commodore Rodgers in 1812 are of very great interest, showing how much can be effected by the weaker belligerent, both in attacking his enemy's commerce and defending his own, by adopting a bold line of action; and, I think, offer a strong argument in support of the necessity of our being prepared to find our antagonist, in a future war, operating with a fighting squadron in centres remote from Home waters immediately on the outbreak of hostilities.

Rodgers with 3 frigates and 2 smaller ships started out in search of a West Indian convoy which he knew had sailed

from Jamaica, and missing it, "continued his chase to within 20 hours of the English Channel."

The results of his action were that he forced the English cruisers to concentrate to avoid the risk of being surprised and beaten in detail by an enemy of whose whereabouts they had no knowledge; thus preventing them from intercepting the American trade or effectually watching their ports.

Special Protection for Commerce Indispensable.

I think we may fairly conclude that special precautions are necessary to protect commerce in war time and that these precautions must involve the employment of large numbers of cruisers.

The nation with the largest mercantile marine will be most vulnerable, and need a proportionately larger number of cruisers for this purpose.

Let us compare this opinion, deduced from historical facts, with that expressed by the First Lord of the Admiralty in his speech in the House of Commons, March 16th, 1909.

(National Review, November, 1910, p. 405.)

"There is no nation in the world which has anything like the same dependence on foreign trade that we have. Its loss to us would be a vital blow; to any other nation it would be merely an inconvenience.

"Our commerce, if unprotected in remote seas, would be open to attack by foreign armed merchant vessels, especially commissioned for the purpose as ships of war. Victory at sea in Home waters would not necessarily protect our foreign trade, nor would it necessarily bring the war to a close. On the other hand defeat in Home waters would certainly end the war, and would be the surest means of protecting the antagonist's foreign trade. I make these observations merely by way of a brief explanation of our special need of cruisers, and to show that calculations of battle strength in which they are all reckoned as available in Home waters, are based on an incomplete appreciation of their true functions."

III.

ARE WE IN A POSITION TO SECURE SO ABSOLUTE A MARITIME PREPONDERANCE ON ALL OUR TRADE ROUTES AS TO FRUSTRATE ANY ATTEMPTS ON OUR COMMERCE?

This appears a question to which a definite answer is very necessary.

In reply to suggestions that an enemy might detail commerce destroyers to operate against our trade centres abroad, one is generally told that any vessels so despatched would be immediately followed and dealt with by a superior force.

If such is the case surely we should have been even better able to do so in the year 1806.

I think the following quotations from Brenton's Naval History may raise some doubts in the minds of disciples of this creed.

"The battle of St. Domingo, following the splendid victory of Trafalgar seemed to have completed the ruin of the French Navy. The history of nations has few examples of such a series of successes as those obtained by the fleet of Great Britain between the 22nd July, 1805 (Sir R. Calder's fight off Ferrol), and February 6th, 1806. In that time the enemy had lost 34 sail of the line; and their crews which were either destroyed or made prisoners, amounted to 25,000 men. Their merchant fleet had long since been nearly annihilated, their Colonial trade was carried on by neutrals."

He proceeds at some length to explain how in spite of these results we were unable to diminish in any way the expense of our Navy. Napoleon built new ships and

"by this semblance of a fleet waged a war against our finances and paralyzed a large portion of our Navy. . . . and though he had long decided that the attempts to invade England could only end in mortification and disaster to himself, and had relinquished the project, yet he knew that the flotilla, if only kept in view of the coast of England, would answer all the purposes of intimidation to one part of the nation, and of expense to the whole. In fact, Boulogne was watched, during many years, with a British force far exceeding the importance of the object; at the same time the best ships of the enemy were employed in cruising in small squadrons, to our considerable annoyance."

It would be tedious to attempt to catalogue our losses in detail, but it is certainly worth consideration that Rear Admiral Allemande commanding the *Rochefort* squadron, consisting of 5 ships of the line and 3 powerful frigates besides smaller vessels, was able to cruise for 161 days, and captured the *Calcutta* of 54 guns, the sloop of war *Ranger*, and 52 sail of merchant vessels of different nations; for the French of that day were never very scrupulous on the articles of neutrality.

This it must be remembered occurred in home waters. We were not able to deal successfully with the commerce destroyers in either the East and West Indies till 1810.

The whole question seems one of proportion.

IV

HAVE WE NOW MORE CRUISERS IN PROPORTION TO OUR MERCANTILE MARINE THAN WE HAD IN THE BEGINNING OF THE LAST CENTURY?

In 1812 the Royal Navy had at sea
120 ships of the line.

145 frigates.

421 other cruisers (16 larger, the rest smaller than the frigate class).

Napoleon had over 100 ships of the line and 50 frigates, in various ports from Antwerp to Venice. (*Naval Chronicle*, XXVIII., page 248.)

The number of any possible opponent's available commerce destroyers must be considered, though this is not such a vital factor, for Mahan, after a very thorough investigation, comes to the conclusion that the convoy system

"When properly systematized and applied, will have more success as a defensive measure than hunting for individual marauders—a process which, even when most thoroughly planned, still resembles looking for a needle in a haystack." (*Influence of Sea Power upon the French Revolution and Empire*. Vol. II., page 217).

Not only however, must the numbers of cruisers be sufficient, but they must be of sufficient strength and speed to hold their own against hostile commerce destroyers.

We had a very sharp lesson on this point when America declared war in 1812.

A long list can be drawn out of our losses in frigates owing to the superior power of the American cruisers. It must be remembered that the Americans had no line of battle ships, and simply embarked on commerce destruction, and we were sustaining these reverses at a time when our sea power was so assured that we could harry American ports and make successful descents upon the coast.

Brenton gives the number of American vessels taken by us during the war as 1400, and adds that our losses were numerically as great, and probably of more intrinsic value. Had we possessed suitable vessels for the defence of commerce at the commencement of the war it would have made a great deal of difference.

In arriving at our estimate of available commerce protectors we must remember that small ships, of nominally high speed, are enormously handicapped. About 25 years ago our naval manœuvres embraced the idea of a war on commerce. The Atlantic liners, when pursued, simply put their heads to the wind and walked away from small war vessels, which nominally possessed a speed greater by several knots. This is a point worth remembering.

It is the large mercantile liners that are subsidised by other nations with a view to using them as commerce destroyers in war time. It is well known that an armed merchant liner is no match for even a small war ship in actual fighting; but, as she can successfully elude a small adversary by superior speed in the open sea, the presence of such vessels along our trade routes will demand the employment of large cruisers to deal with them.

It is open to all to see for themselves in Jane or Brassey

the numbers of such cruisers which we should have available after the needs of our main fleets were satisfied.

V.

CAN WE AFFORD TO IGNORE THE INJURY WE MAY DO TO OUR ENEMY BY ATTACKING HIS COMMERCE?

In the past to a very great extent the two duties of protection of one's own and destruction of the enemy's commerce could be performed by the same ships. Moreover the chances of making large sums in prize money was a great incentive to enterprise. The loss of her merchant shipping, though a great blow, would not affect any Continental nation in the same manner as it would England.

In the old days when land communications were so bad, France was nearly as dependent on sea communication as we were; and the battle of 1st June, 1794, was fought by the French to cover the passage of their American and West Indian convoy, as the country was reduced to a state bordering on famine. Owing to the facilities offered by railways, any continental country can supply herself with food through neutral ports. By the Declaration of London, food cannot be made conditional contraband if consigned in a neutral ship to a neutral port.

There is no doubt, however, that any action, which tends to drive our enemy's merchant shipping from the sea, or causes it to be transferred to a neutral flag, must exert some pressure, and therefore we may expect to see our own navy resort to commerce destruction as far as it is compatible with other duties.

VI.

HOW WILL A NAVAL WAR, DIRECTED TOWARDS COMMERCE PROTECTION AND DESTRUCTION, AFFECT HIS MAJESTY'S LAND FORCES.

Attacks on the Enemy's Bases.

Mention has already been made of the length of time the commerce destroyers in both East and West Indies survived the downfall of the main French fleets, and it seems certain that it was entirely owing to the fact that in both cases secure bases for the cruisers existed, and that commerce destruction was undertaken systematically, supported by squadrons strong enough to afford effectual resistance to the forces we had at our disposal. Brenton says (Volume II, p. 326),

"The Islands of France and Bourbon were now all that remained to the French, East of the Cape of Good Hope. The shelter afforded to shipping, and the resources possessed by the first of these Islands for

equipment and victualling ships of war and privateers had enabled the enterprising French Officers to do incalculable injury to our Indian commerce. The success of De Sercey, of Linois, of Bergeret, and du Perrie, were in a great measure owing to the facilities with which they made good the defects of their ships at Port Louis. In 1809, when the depredations of our enemies had exceeded all bounds, when our Navy though triumphant could not correct the evil, either by blockades or by bringing their ships to action, the British Government in India considered the subject as worthy of its attention."

It is impossible to give the history of the subsequent operations in detail, but it may be noted that in one attempt on the island we lost four frigates. The French took another frigate in the fighting preceding the final expedition, and also an Indian-fittered out as a ship of war, on board of which were Major-General Abercromby and his staff. Fortunately, as Abercromby was the General entrusted with the command of the army intended to reduce the Isle of France, they were retaken in a French frigate *La Venus*.

When the final attack was made the fleet was commanded by a Vice-Admiral, and included 1 line of battle ship, 12 frigates, and 4 smaller war vessels; the total fleet consisted of 70 sail, so that the number of troops employed must have been considerable. Four French frigates and 3 smaller war ships besides two of those previously taken from us were captured in the harbour.

The fighting in the West Indian Islands, so lightly passed over by Mahan, was on an altogether larger scale. Squadrons of battle ships and large bodies of troops were employed. The principal lesson for us is the danger of attempting to hold bases with inadequate bodies of troops.

After Guadeloupe was captured in 1749 it was retaken by the French, and remained a thorn in our side until its ultimate capture in 1810. The French losses on this occasion were 600 killed and wounded and 2,000 prisoners.

Attempts by the Enemy to acquire Bases.

It appears, from these instances from history, that, if an enemy wishes to harass our trade seriously, he will require a strong base from which to operate. Modern ships are more dependent on bases than were sailing vessels.

It may be objected that our most likely antagonists are not possessed of these desirable adjuncts to commerce destroying. Bases, however, may be acquired in more ways than one. They may be seized from the enemy himself if he neglect to hold them with a sufficient force to guard against surprise or leaves them altogether ungarrisoned. For such a purpose a small island is the most suitable. It is often asserted by responsible people that a lodgment on the mainland for such a purpose is impossible.

Although Gibraltar is not a commercial port, the purpose for which we hold it is immaterial to the question under discussion. When we abandoned the Mediterranean in 1780 Gibraltar defied capture for nearly three years, with practically no support, except for the supplies and reinforcements thrown in by Admiral Derby in April, 1781, more than a year after the commencement of the siege. Yet it was captured easily enough by Rooke in 1794 when it was insufficiently garrisoned. Most of us can call to mind other places in different parts of the world which could be easily held by a sufficient garrison. The port of a weak neutral may be forcibly occupied for the purpose. Neutrality of nations unable to enforce their rights has constantly been disregarded in naval warfare.

There is a third way. When Napoleon wanted the Dutch ports he simply occupied the country, and under certain contingencies it seems not improbable that this procedure might be copied. Both Holland and Denmark have foreign possessions which might be utilised as bases for commerce destroyers.

In estimating the chances of our commerce being seriously interfered with, we must not overlook the fact that we cannot count on numerical superiority in capital ships against the most probable coalition in the present political condition of Europe.

Comparison with the Position in 1778.

It is outside the scope of this paper to serve up a rechauffé of the monthly magazines. But I think that it will easily be recognised that, if we should be forced into a war with the triple alliance, with perhaps the forces of Turkey added to theirs, a strategic situation would be produced not very dissimilar to that of the war of 1778-82.

The policy of France before this year had been:

"To follow the tendencies of British Commerce; to observe in England the state of the troops and armaments, the public credit and Ministry; to meddle adroitly in the affairs of the British Colonies. . . . to develop actively but noiselessly the Navy, . . . to fill our storehouses and to keep on hand the means of rapidly equipping a fleet . . . finally, at the first serious fear of rupture to assemble numerous troops upon the shores of Brittany and Normandy, and get everything ready for an invasion of England, so as to force her to concentrate her forces, and thus restrict her means of resistance at the extremities of her Empire."

Mahan quotes this from Zapeyrouse-Bonfils, a French naval author. (*Influence of Sea Power*, page 337.)

Another quotation on page 341 of the same work, with very little alteration, might be taken from a current newspaper. This is a statement of the First Lord of the Admiralty made in the House of Lords in November, 1777, a very few months before the war with France began:—

"We have now 42 ships of the line in Commission in Great Britain

(without counting those on foreign service), 35 of which are completely manned and ready for sea at a moment's warning."

"I do not believe that either France or Spain entertains any hostile disposition towards us; but from what I have now submitted to you, I am authorized to affirm that our Navy is more than a match for that of the whole house of Bourbon."

Mahan adds

"This pleasing prospect was not realised by Admiral Keppel when appointed to command in the following March, and looking at his fleet with (to use his own apt expression) 'a seaman's eye'; and in June he went to sea with only 20 ships."

England was forced absolutely on the defensive, she could not be strong everywhere, she was driven out of the Mediterranean; the Channel fleet was so inferior that "it was difficult to find an Admiral willing to accept the chief command."

The allied fleets

"captured an entire convoy, largely laden with military stores for the East and West Indies. The entrance of 60 British prizes, with nearly three thousand prisoners, into Cadiz, was a source of great rejoicing in Spain."

My object in quoting the above is to show that the allies were able to choose their own objective, and attack when they liked. As a matter of fact, their greatest effort was centred on the West Indies, and that choice was largely dictated by commercial considerations. It seems not unlikely that a sufficient force could be spared by our probable antagonists to seize and hold a base in the Atlantic, from which to operate against the food supplies to Great Britain, whilst still maintaining in home waters a fleet sufficiently powerful to prevent our detaching a force to cope with it successfully. What the consequences of the interruption of the food supply for a few weeks would be is not very hard to predict.

Effect of the Declaration of London.

The Declaration of London making food supply a conditional contraband of war supplies an additional incentive to such an attack. As it stands at present all food conveyed to an English port in neutral bottoms is liable to capture. It has often been asserted that America would not tolerate such an attack; but we must remember that a neutral, in spite of very drastic treatment, is generally unwilling to become a belligerent, as the inevitable results of a war is to benefit the trade of all neutrals. Further there is the element of time. Owing to the astonishing rapidity of events under modern conditions of warfare, it is quite conceivable that Great Britain might be brought to the verge of starvation before a neutral nation had decided on its line of action.

It would be equally open to our enemy to direct his expedition against any other of our trade routes, and whether he

seized an unfortified port, or attempted to capture one of our bases, the result would be a call on the British land forces.

Employment of Troops against French Bases.

The amount of hard fighting that has been put in by the army in similar cases can only be gathered in works like the Diary of Sir John Moore. It must be insisted on that the expeditions to the West Indies in which he took part were entirely in defence of our commerce. Mahan is very clear on this point.

"During the French Revolution about one-fourth the total amount of British Commerce, both export and import, was done with them.

"The presence of hostile cruisers not only inflicted direct loss, which was measured by their actual captures, but, beyond these, caused a great direct injury by the friction and delays which the sense of insecurity always introduces into commercial transactions."

"The ideal aim of the British Ministry was to banish the enemy's cruisers absolutely from the region; but, if this was impossible, very much might be effected by depriving them of every friendly anchorage to which they could repair to refit or take their prizes, in short, by capturing all the French Islands." (*Influence of Sea Power on the French Revolution and Empire*. Vol. I., page 111.)

Seven ships of the line were sent out in March 1793 with troops and effected nothing. Seven thousand troops were employed in 1794 at the capture of Martinique which occupied six weeks, the same force afterwards taking St. Lucia, Guadeloupe, and other islands; but no less than 16,000 were employed under Sir Ralph Abercromby in 1796.

It is Major-General Sir J. F. Maurice, when editing the Diary of Sir John Moore, who really reveals the part the army played in these expeditions. One extract will bring it home to those who have not previously known of it.

"The frightful loss of life to the Army involved in these wars must be realised. Bunbury has shown from Parliamentary Returns that, in the two years with which we are now immediately concerned, 40,639 were discharged from the army on account of 'wounds or infirmity,' irrespective of deaths."

Naval Detachments not Available.

Perhaps a word concerning the improbability of naval detachments being available for service on shore in such expeditions may not be out of place.

In the Crimea, Indian Mutiny, and Boer War, and numerous minor expeditions the navy played such a brilliant part, that many are apt to look upon such employment as a matter of course. It must be remembered that in all these instances there was no maritime force opposed to us, nor any great likelihood of any pressing need for their services in the near future.

This would not be the case in a naval war even with an

opponent of inferior strength, and it is instructive to read an authoritative pronouncement of the Admiralty to no less a person than Nelson himself. The circumstances were as follows :—

Nelson had landed men to carry on the siege of St. Elmo, and afterwards sent them against Capua. Keith had written ordering him to join the main fleet, July 9th, 1799. Nelson replied refusing, and saying :

" All our marines and a body of seamen are landed, in order to drive the French scoundrels out of the Kingdom."

This is the Admiralty criticism :

" Although in operations on the sea coast, it may be expedient to land a part of the seamen of the squadron, to co-operate with and assist the Army, when the situation will admit of their being immediately re-embarked if the squadron should be called away to act elsewhere, or if information of the approach of the enemy's fleet should be received, yet their Lordships by no means approve of the seamen being landed to form part of an army at a distance from the coast, where, if they should have the misfortune to be defeated, they might be prevented from returning to their ships, and the squadron be thereby rendered so defective as to be no longer capable of performing the services required of it; and I have their Lordships' command to signify their directions to your Lordship not to employ the seamen in like manner in the future."

(*Life of Nelson*. Mahan, Vol. I., p. 451.)

It may be argued that I am straining a point, as the Admiralty letter refers to seamen being sent to a distance from the coast ; but Capua is under 20 miles from Naples, and further, the term "distance" is governed by time as well as space. If an attack can be delivered with little or no warning, a very short distance, as regards mileage, may prevent the detachment regaining their ships in time.

Conclusions.

Bases are equally necessary for the protection of commerce. If the convoy system is adopted, harbours are necessary for the purposes of collecting the convoy, as well as for coaling and victualling.

This will inevitably lead to the aggregation of wealth in one place that must prove irresistible to the enemy.

We must give him credit for adopting correct tactics. In such a case he will have an intimate knowledge of the conditions of our trade, and will choose a time when it will be most profitable to attack.

He will then embark on a carefully prepared plan, which will have nothing in it of the haphazard raid.

This plan will embrace landing a force of sufficient size to deal with the situation according to his calculations, which will be based on pretty accurate information. As surprise will be a large factor in success, he will not cumber himself with a larger expeditionary force than possible.

Here I think we have all the elements necessary to produce a hard struggle, if the defence is animated by the resolve to hold out to the last; for the assailants, added to the ordinary advantages of the initiative, will be animated by the hope of prize money. It will be too late to remedy matters then, if we have neglected to use the means at our disposal in peace time to heighten the value of every individual by careful training and intelligent study of the ground.

In conclusion I should like to impress on my own branch of the service that it is absolutely indispensable that the garrison gunner should be an all-round man at arms. If our ports are to offer a successful resistance, the Garrison Artillery must understand enough of infantry duties to be able to safeguard their own batteries from a land surprise; not only must they be able to use their rifles in an entrenched position, but they must be prepared to reinforce hard pressed infantry actively on an emergency.

This may seem a large demand, when one considers that their strictly artillery duties must embrace a working knowledge of all descriptions of ordnance; yet it is no more than is required from the bluejackets, and there seems no reason why the training of the land forces should be less complete than theirs.



By Captain T. Seki, of the Japanese Infantry; (one of the three best essays in the 17th prize competition on the above subject).

Translated from Nos. 414 and 415 (July, 1910), of the Officers' Club Magazine, by Captain F. S. G. Piggott, R.E.

(Continued from page 906).

CHAPTER III.

ACTUAL INSTANCES IN THE RUSSO-JAPANESE WAR OF THE USE OF THE ARME BLANCHE.

- (a.) In Night Operations.
- (b.) In Attacks by Daylight, and at Dawn.
- (c.) In Defence.
- (d.) In Pursuit and Retreat.
- (e.) During Rain and Fog.
- (f.) In Fortress Warfare.

(A.) In Night Operations.

THE 5TH DIVISION AT TA-SHIH-CHIAO.

1. On the last day of July, 1904, the Second Japanese Army attacked the Russian Army in the neighbourhood of Ta-shih-chiao. The 5th Division formed the right wing, and before dawn on the 24th July, left the line stretching between the high ground east of Lieu-chia-kou and the high ground north-west of Ku-ssu-kou. Establishing connexion with the left wing (the 3rd Division), at about 8 a.m., they occupied the line between the high ground north and west of Yang-tsao-kou. At the same time the 5th Division artillery advanced towards the high ground north of Yang-tsao-kou, where they came under a severe artillery fire from the Russians in the neighbourhood of Ta-ping Ling; apart from this fire our guns were unable to reply, owing to the range and the configuration of the ground, so the infantry and artillery took cover. At 2.50 p.m. the 5th Division decided to deliver an assault with its full force against the high ground west of Ta-ping Ling, and the artillery, at

3.30 p.m., took up a position on the heights north-west of Yang-tsao-kou and opened fire. No suitable path existed for the infantry attack on the already prepared Russian position; the first line of infantry was strengthened by troops from the rear, and, receiving also support from the artillery, began to advance to the assault. They were, however, unable to continue their advance, as they came under a flank fire from the Russian artillery on the heights north-east of Erh-tao Ling, and north-east of Ta-ping Ling. The situation in the direction of the 3rd Division was much the same, and they were only able to occupy the high ground south of Shan-hsi-tou. But the Russian artillery still clung to their position between the neighbourhood of Ta-ping Ling and a point to the west of this mountain, and the battle continued till sundown. The commander of the 5th Division considered that if he stopped his assault now and waited for morning in order to resume it, he would have again to carry out a very difficult advance by daylight under a fierce infantry and artillery fire; further, there were signs that the Russian Army was being reinforced in the neighbourhood of the 3rd Division, which led him to suppose that under cover of night the enemy would bring up fresh troops, and gradually increase his resisting power. He therefore decided to take advantage of the slackening of the Russian fire at dusk, and deliver a determined attack against the high ground west of Ta-ping Ling. He ordered the troops in the first line to advance to the assault at 10 p.m., and the artillery to remain in their present position; further, to safeguard himself against a possible defeat, he halted a portion of his infantry in the valley of Tung-tai Ho, and on the heights north of Yang-tsao-kou. At 9 p.m. the right wing of the Division advanced to the line on the northern extremity of Mao-shan-kou, the first line consisting of the 21st Infantry Regiment, and the reserve being two companies of the 1st Battalion of the 42nd Infantry Regiment, and the 1st Company of the Engineer Battalion (5th Battalion).

The left wing, at 8.30 p.m., attacked and occupied the heights south-east of Pien-kan-kou, in spite of the fierce infantry and artillery fire directed upon them. Continuing, they advanced to the foot of the high ground occupied by the Russian Army; in the first line was the 11th Infantry Regiment, the 41st Infantry Regiment (less two companies), and the 3rd Engineer Company; the reserve consisted of two companies of infantry. Both wings here reformed their troops and prepared for the assault. Meanwhile the Russians kept up a galling fire and hindered their preparations; in addition to this the troops of the first line experienced the greatest difficulty in moving, owing to the dim evening light, the cultivated *kao-liang* fields, precipitous gullies, and walled villages, so that their formation became disordered. In spite of the difficulty of maintaining alignment, and inter-communication between units, they kept up a hot fire for a considerable time, resolutely scrambled up the slope, and, with

a cheer, charged against the Russians' first work; continuing, they captured the second work, at 11.30 p.m. But the Russian Army still held fast to their third position, and showed no signs of retiring; thereupon both wings assaulted, and captured the work at 3 a.m. on the 25th. They at once re-arranged their ranks, and prepared for the possibility of a counter-attack; they remained thus until daybreak. The Russian Army had meanwhile evacuated its position and retired. Knowing that the 3rd Division had advanced to the high ground north of Shanshi-tou, the 5th Division again advanced, and strengthened the position occupied by them near that place.

EXAMPLES FROM LIAO-YANG.

2. At the beginning of the Battle of Liao-yang, from August 25th to 26th, the 2nd Division of our First Army (against the high ground of Kung-chang Ling), and the 12th Division (against the high ground between Han-po Ling and Chieh-pan Ling), together carried out a successful night bayonet charge. On this occasion, owing to the light of the moon, the enemy saw our troops advancing; not only did they open a tremendous musketry fire, but they also threw rocks and boulders from the summit of the mountain, which, falling among our men caused a great many casualties. Our troops, however, with the greatest calmness and composure refrained from opening fire, and, with the utmost resolution and determination scaled the mountain, broke into the enemy's position, and captured it.

3. During the Battle of Liao-yang, on the 3rd September, the centre, and left wing, of the right column (in the direction of the Fourth Army), in spite of the enemy's fierce musketry and artillery fire, came to close quarters with the enemy's position, after cutting their way through several lines of powerfully-constructed obstacles, and passing over many dead. At about 7.30 p.m. the 20th Infantry Regiment attacked and captured the enemy's redoubt on the east side of Yu-kung-miao. About the same time another infantry battalion also, joining forces with the left wing of the troops next to them, attacked the same work from both sides. The left wing, owing to the enemy's very stubborn defence, eventually had to halt temporarily about 200 yards in front of the position, but at sundown they charged against the work and captured it.*

EXAMPLES FROM THE SHA-HO.

4. During the Battle of the Sha-Ho, on the 11th October, the enemy, with the intention of recovering Ying-te-niu-lu, which had been occupied by our troops as the result of an attack by the 18th and 33rd Infantry Regiments (on the left wing of

*The meaning of the above passage in the original is somewhat obscure.—Translator.

the 3rd Division of the Second Army), delivered several counter-attacks. At first they relied on heavy musketry fire, but as this method held out no hope of success, they eventually tried a determined bayonet charge, by which they won back the position.

5. During the Battle of the Sha-Ho, on the 11th October, the commander of the Fourth Army assumed the offensive, acting on orders received from the Commander-in-Chief. On this occasion his intention was to drive away the enemy who had occupied Wu-li-tai-tzu, but, being unable to attain this object, he delivered a night attack, which proved successful, with the 3rd Battalion of the 11th Infantry Regiment. During this attack three companies of the battalion formed the first line, and the remaining company (No. 10 Company) formed the second line about 150 yards in rear. Throwing out a few scouts a short distance in front to reconnoitre, the battalion advanced very silently, and at about 1.20 a.m. came to close quarters with the southern limits of the village of Wu-li-tai-tzu. As soon as the enemy here knew of our approach they opened a hot fire, and defended their position with great stubbornness; although their strength was not less than two or three companies, our battalion, not wavering for an instant, delivered a fierce bayonet charge, and at 1.30 a.m. finally captured the position. Then, following hard on the heels of the retreating enemy, they reached, and occupied, the northern boundary of the village.

6. At the Battle of the Sha-Ho the 10th Division, co-operating with the 2nd Division, attacked, on October 11th, the Russian Army at San-chia-tzu, and on the heights west of that place, but were not able to occupy the neighbourhood of San-kuai-shih Shan, for the whole line of hills in this neighbourhood was tenaciously defended by a superior Russian force. The 5th Division, forming the left wing, were also unable to progress with their attack as they had hoped.

Should the 10th Division have waited for dawn in order to assault? Not only was the configuration of the ground unsuited to an attack by daylight, but there was also a chance that the Russian Army, under cover of night, might change their dispositions. Further, looking at the matter from the point of view of the whole Manchurian Army, it was essential to break the Russian line here as soon as possible, so as to attack in flank and rear the Russian troops facing the First Army (forming the extreme right of the Manchurian Army); for this reason the 10th Division determined to carry out a night attack.

San-kuai-shih Shan stood up, a solitary hill in an open plain. It was an inaccessible and, at the same time, a very important position; at the time in question it was occupied by a brigade of the 37th Russian Division, and a few field batteries. It was attacked by three infantry brigades of the Japanese 10th Division. The dispositions for attack were as follows (each

"line" being formed from one brigade): The first "line" was in line in two ranks; the second "line" was in line of company columns; the third "line" consisted of two parallel columns, each column formed of a regiment in double line of line of company columns. The distance between the first and second lines was about 200 yards, and between the second and third lines about 500 yards. The troops were forbidden to open fire unless absolutely necessary; the actual ground over which the advance lay, the method of keeping communication between units, and the precise objective of attack, were all carefully explained beforehand. Further, every one was dressed alike, with great coat, and a white band on the left arm. At 12-30 a.m., on the 12th October, the force was drawn up ready, and on the signal (a rocket) being sent up, operations began. The 8th Brigade (the 10th and 40th Regiment) advanced slowly with frequent halts, in order to preserve their formation and communications. Although coming under the Russian musketry fire, they did not reply; when they had arrived at 400 yards from the enemy's position, they received a tremendous fusillade—the flashes from the Russian rifles showing plainly that there were several tiers of fire-trenches on San-kuai-shih Shan.

Even when they had reached 100 yards, the enemy's fire was as heavy as before; owing to the practical impossibility of advancing further, the troops in the first line all opened fire at the same time, and after keeping it up for half-an-hour delivered a determined charge. Although they were able to capture the first line of the Russian position, they came under a cross fire; further, the Russian soldiers on the top of, and half-way up, San-kuai-shih Shan, relying on the inaccessibility of their position, obstinately refused to move. Later on the brigade surrounded the Russian second line of defence, the men crawling and climbing over rocks and boulders, and eventually engaging in a hand-to-hand fight which lasted several hours.

The 20th Brigade (the 20th and 39th Regiments) had advanced towards Shuang-tzu Shan, adopting almost the same methods as the 8th Brigade, but as the sounds of musketry fire on San-kuai-shih Shan still continued they determined to co-operate with the 8th Brigade, with the object of destroying the Russian force on San-kuai-shih Shan. Their main body therefore changed direction and, under a fierce fire, reached a position about 200 yards from the enemy, where our men opened fire, and, receiving reinforcements from their second line, delivered a charge which resulted in the capture of the enemy's first line of works. After a time the 20th Brigade surrounded the Russians in the village on the mountain; one part, scrambling up the steep cliff, drove them off after a fight at close quarters, while a desperate hand-to-hand struggle with the remainder in the village resulted at length in a hard-won victory, and in the occupation of the place.

AN EXAMPLE FROM MUKDEN.

7. During the Battle of Mukden, on March 10th, the 7th Division was opposed at close quarters by a Russian force north-west of the Northern Imperial Tombs; owing to the very determined resistance of the enemy, advantage was taken of darkness to deliver an attack with a certain brigade (fourteen companies of infantry, with some engineers). The force destined for the night attack at 5.15 a.m. gradually began moving—the first line consisting of seven companies of infantry and the engineers, the second line of five companies, and the third line of two companies; the lines were in echelon, at 100 yards distance, and they advanced slowly, carefully keeping their correct positions. The night was very dark, and, as the advance progressed, the difficulty of keeping connexion between each unit and between the three lines of attack continually became greater; so that the intervals between units widened, and the distances between the echelons decreased. The advance, however, continued without hindrance, and at 5.30 a.m. the northern boundary of the wood to the north of the Northern Tombs was reached. At this moment two or three shots rang out to our front, and also in front of our left wing; immediately afterwards loud shouts were heard in front of our first line. The commander of this line, without losing a moment, shouted out an order at the top of his voice, and our men, responding immediately, dashed into the wood, cheering as they went. The second line also, closing up, joined in the charge. The Russians in the neighbourhood of the edge of the wood resisted stoutly, and in the hand-to-hand fight which ensued casualties increased rapidly, and the place soon presented a terrible spectacle. However, the Japanese infantry eventually drove off the Russians and advanced close on their heels. (5.40 a.m.).

A little before this, when our first line had charged into the Russian position, the commander of the whole night attack force, being nearly certain that the main Russian force lay in the direction of our left flank, and sent two companies forming the third line to guard against a possible attack from this direction. This party, although facing the enemy in this quarter, found a gap between themselves and the first two lines, when the latter began to pursue the retreating Russians. It thus became imperative to close up this interval, but in doing so the two companies were thrown into considerable confusion by the darkness.

As dawn had not yet broken, and as the wood was very thick, it was not possible to see more than ten paces ahead, and all the units of the attacking force naturally fell into great disorder. There was no one to look to for orders, and small groups of soldiers formed in every direction and engaged the enemy in their particular vicinity; in this way we advanced, while casualties on both sides continued to increase with the hand-to-hand combats. Eventually, owing to the exertions of

the various unit commanders and the intelligence of the men, the force gradually regained its original formation (the sound of musketry and the presence of scouts indicating the direction of various units), and at 9 a.m. it finally occupied the enclosure surrounding the Northern Tombs.

THE 10TH DIVISION AT LIAO-YANG.

8. At the time of the Battle of Liao-yang the Russians had constructed two lines of defence to the south of Liao-yang; the Japanese Army attacked these, and during the night of the 31st August captured the first line, the Russian Army falling back to their second line of defensive works.

The Japanese 10th Division formed the right of the Fourth Army, and, pursuing the enemy captured the line from Ta-te-pu-shih-fu to Shih-chia-wa-tzu about noon on September 1st; they were now facing the Russians in the neighbourhood of Yu-kang-miao, and on the 2nd September again advanced. At about noon they arrived at the line stretching from the neighbourhood of Ta-te-pu-shih-fu to the neighbourhood of the village without a name, to the north of Tung-pa-li-chuang; they were, however, unable to continue their advance owing to the Russian infantry and artillery fire. Especially was this the case in the direction of the right wing, who found themselves under a terrible fire from about twenty pieces of artillery on the high ground north of Mu-chang. At 5 a.m. on the 3rd September they again opened the attack, and, in face of a fierce fire, penetrated to within three or four hundred yards from the front of the Russian position; our first line, and the reserves, suffered a great many casualties from infantry and artillery fire, and the village and wood behind which they had with difficulty taken cover were immediately destroyed, so that the movement of even a single soldier at once attracted a storm of bullets.

In spite of the determination of the first line they were not able to fire with any effect against the skilfully-constructed Russian works, and although in great need of artillery assistance they were rendered powerless by the fact that the artillery ammunition was exhausted. The several days' fighting had exhausted the men mentally and physically; and all the time the casualties continued to increase. The commander of the 10th Division, knowing that the artillery ammunition was exhausted and casualties increasing, decided to deliver a determined charge at 6 p.m., in co-operation with the left wing (5th Division).

All ranks at once took heart again, and at dusk began to advance with the utmost gallantry, gladly looking forward to laying down their lives for their country. The terrible fire, the auxiliary defences, and particularly the continually exploding mines, caused our men to halt about 150 yards from the front of the enemy's position. The issue of the fight appeared to be

very doubtful, when, just at this moment (7.50 p.m.), the 10th Regiment of Kobi Infantry and one battalion of the 40th Infantry Regiment, who were advancing against Yu-kung-miao, entered the place in face of a terrific fire, and over the bodies of a great number of the killed. At the same time the 20th Infantry Regiment effected an entrance into the redoubt on the east of Yu-kung-miao. One portion of the Russian position was now in our hands, and the troops, with redoubled energy, delivered the charge which resulted in the final occupation of Liao-yang.

9. In addition to the examples given above there were a great number of occasions when the *arme blanche* was used in night outpost fighting, both in attack and defence. For example, the outpost engagement of the First Army at Mo-tien Ling; the various outpost actions of the Third Army at Port Arthur, from the time of the fighting in the neighbourhood of Chuan Shan until the capture of the outer defences; and the many affairs of outposts which took place in front of each army during the time the two forces were confronting each other at the Sha-Ho and Mukden.

(B) In Attacks by Daylight, and at Dawn.

THE 5TH DIVISION AT THE SHA-HO.

1. Let us examine the engagement when the left wing of the 5th Division of our Fourth Army, during the Battle of the Sha-Ho, captured the highest point of Wu-li-tai-tzu with a daylight bayonet charge. At 5.30 a.m. the troops destined for the attack of this hill began an enveloping attack from the south-west, the arrangement of units being as follows:—

No. 2 Battalion of the 11th Infantry Regiment on the left; No. 1 Battalion of the same regiment in the centre; and No. 2 Battalion of the 42nd Infantry Regiment on the right.

As settled previously, they attacked vigorously, but the enemy on the hill not only stubbornly refused to move, but met our men with a terrific musketry fire. The attacking party, waving their bayonets and cheering loudly, charged forward; but the enemy, taking advantage of the fact that the top of the hill was somewhat confined and not suited to the movements of large bodies of troops, fought with the greatest energy. Sparks sprang from the clashing blades, as swords and bayonets met in this indescribable struggle; casualties rapidly increased and covered the whole mountain side.

Then the 2nd Battalion of the 21st Infantry Regiment, establishing connexion with the right wing of the 2nd Battalion of the 42nd Regiment, attacked the hill up the south-eastern slope; although the length of the hill which the enemy were holding was considerable, the width from east to west, forming the front of this battalion (No. 2 Battalion 21st Regiment), was comparatively narrow, and a great number of troops could not

be brought against it. The regimental commander, seeing this, only ordered his 2nd Battalion to advance on the right of No. 2 Battalion of the 42nd Regiment. His 3rd Battalion (less one company) was placed in rear between the 2nd Battalion (21st Regiment) and the 2nd Battalion of the 42nd Regiment, to assist the charge of the latter. When the result of the fight on the hill was still uncertain, a little before 6 a.m. two or three companies of the enemy's infantry appeared out of the morning mist in a field about 600 yards north-east of the hill. Observing the 2nd Battalion of the 42nd Regiment they opened a flank fire upon them, and the battalion found itself very hard pressed. Just at this moment the 2nd Battalion of the 21st Regiment reached the skyline on the right of this battalion (2nd Battalion 42nd Regiment), and, opening a hot fire upon the enemy in the field, rapidly threw them into disorder, so that they fled in the direction of Hsiao-fan-chia-tun.

A little after 6 a.m. the troops in our first line finally over-powered the enemy and captured the highest point of the hills. Although this position was now in our hands, the enemy, who were still firmly holding on to one of the lower spurs of the same hill and to the crest line to the north-east, delivered two counter-attacks against the hill which we had occupied. A fierce hand-to-hand fight ensued, but when they saw that our men had driven them back, they fled in the direction of Shih-li-ho, leaving over 100 dead on the field. The whole chain of heights east of Wu-li-tai-tzu was now completely occupied by the Japanese Army.

THE 2ND INFANTRY REGIMENT AT THE SHA-HO.

2. During the Battle of the Sha-Ho the 2nd Infantry Regiment (Colonel Ota) was holding the line of hills at Ta Ling, in face of a superior force of the enemy. Before it was light on the morning of October 12th, about three regiments of the enemy advanced to the attack of a small hill which formed the key of our position. The garrison of this hill, consisting of one company, held on tenaciously to the summit, but their position was very perilous. The regimental commander, placing the war-flag in the van, and with an escort of two companies, delivered a determined charge. With flashing steel and undaunted bravery they engaged in a hand-to-hand fight against superior numbers on the slopes of this hill, but owing to the stubborn resistance of the Russians both the first and second charges failed. The regimental commander and the standard-bearer were both wounded, the regimental adjutant was killed, the cloth of the flag was riddled with bullet, and the flag itself was carried by one valiant private soldier. A third charge was now delivered, and finally, at 7.30 a.m., the Russian force was driven off.

During this engagement the casualties in Colonel Ota's

regiment numbered one-sixth of those actually taking part in the fight. The majority of the casualties were from bayonet wounds. The spot where the action took place was called "Gunki Yama" (War-flag Hill), in order to mark the place where the war-flag might almost be said to have engaged in the fight itself. The Commander-in-Chief of the Fourth Army presented Colonel Ota, the regimental commander, with a "Kanjo" (certificate of distinguished service in the field).

(c.) In Defence.

GENERAL UMEZAWA'S BRIGADE AT THE SHA-HO.

At the time of the Battle of the Sha-Ho the Mixed Kobi Brigade of Guards (Major-General Umezawa), attached to the First Army, and the 12th Division, were on the extreme right of the Manchurian Army, under the command of Lieutenant-General Inouye; this force occupied the chain of hills from the neighbourhood of Pen-hsi-hu to the high ground south of Ying-chang-pu—a length of about $12\frac{1}{2}$ miles, and checked the attack of the Russian Eastern Detached Force.

A little before this, Major-General Umezawa's Brigade had been defending the neighbourhood of Ping-tai-tzu, but as the main force of the Russian Army advanced southwards they had been ordered to retire to Pen-hsi-hu and the neighbourhood of Tu-men-tzu Ling—eventually arriving at their new position on October 8th. From the 9th onwards they were attacked, and very hard pressed by a superior Russian force. During the night of the 9th the main body of the 12th Division advanced to the assistance of the Mixed Brigade, and Lieutenant-General Inouye took command of both forces. Major-General Shimamura was now ordered to occupy the line of hills on the southern flank of Pen-hsi-hu and drive off the enemy in that quarter; the troops placed under his command were the 14th Regiment of Infantry, three-and-a-half battalions of the Kobi Infantry, who had been with the Umezawa Brigade, one battery of artillery, and one company of engineers. This force on October 10th recaptured the position which had been taken from us a few days before, and occupied a front of about five miles, with five-and-a-half battalions. The chain of heights in this neighbourhood rose between 900 and 1200 feet above the level of the plain, the side of most of the hills being at a slope of as much as $2/3$ or $1/2$. The summit was covered with rocks and boulders, and the slope itself was serrated with chasms. Owing to the extraordinary difficulty of operating here it might be said that the advantages of the configuration of the ground supplemented the scarcity of the defending troops. In spite of this, however, the danger and difficulty of successfully holding the place, against odds of 10 to 1, were very great.

The Russian Army began the attack early on the morning of the 11th; about noon they delivered a fierce charge, having placed several companies in every spot along the entire front

where it was possible to deploy troops. The defending force in desperation concentrated a terrific fire on the attackers; they also hurled stones and rolled down rocks to hinder the scaling of the hill; others defended their posts with the bayonet. The Russian force, regardless of death, delivered desperate bayonet charges; when one party was driven back, fresh troops advanced to the assault, and it seemed as if they would not give up until the position was in their hands. In addition to this, several large bodies of the enemy were seen in rear, so that it is not difficult to imagine the terrible straits in which our men found themselves. A great number of urgent messengers, sent from every unit of the defence, collected at Major-General Shimamura's headquarters, with applications for reinforcements or more ammunition; eventually all his reserves were engaged, and all the ammunition exhausted. All this time the struggle on the hills became more and more fierce, and the position of our men more and more desperate. The charges received by the Japanese in various quarters continued until sundown, some units being charged no less than six times, while none received less than three bayonet attacks. In spite of all this, the dogged determination of the officers, and the undaunted and brave spirit of the N.C.O.'s and men, resulted in not a single inch of the position being given up. They fought with bayonets and stones when their ammunition was exhausted, and in some companies there were only thirty or forty men left. However, against more than three Russian Army Corps they succeeded in holding their ground, and prevented the enemy's plans for the offensive being carried out.

(D.) **In Pursuit and Retreat.**

THE 3RD DIVISION AT THE SHA-HO.

1. During the Battle of the Sha-Ho, at about 7 a.m. on October 14th, when it was fairly clear that the final victory would rest with us, the left wing of the 3rd Division began a vigorous pursuit of the enemy in their front. The 6th Regiment charged the enemy's artillery position on the west of the Mukden main road, and the 33rd Regiment, the artillery position on the east of the Mukden main road. The enemy's infantry resisted step by step, but our men, in the flush of victory, rolled forward like a wave; when the enemy's infantry finally fell back to their artillery line, our assaulting body suddenly appeared immediately in front of their guns. The enemy were in the greatest confusion; some brought up the horses and tried to limber up, some abandoned their guns and fled, some raised imitation Japanese flags on the gun carriages; in fact, it is almost impossible to describe the situation. Taking advantage of this, our infantry kept up a rapid fire, and then, fixing bayonets, inflicted with them very great losses on the enemy's men and horses. The enemy were thrown into unutterable con-

fusion, and were nearly all put to the sword. We captured seventeen quick-firing field guns on the west of the Mukden road, and seven guns, ammunition wagons, and material on the east of the Mukden road. The 9th and 10th Companies of the 34th Infantry Regiment—forming the division's right wing—had also charged the enemy's artillery on the latter's left flank; then, joining forces with the 33rd Regiment, they charged against the artillery position east of the Mukden road, where they inflicted many casualties on men and horses.

THE YAMADA DETACHMENT AT THE SHA-HO.

2. During the Battle of the Sha-Ho, on October 16th, the Yamada Detachment of the Fourth Army, facing the enemy at close quarters near Wan-pao Shan, began to retreat. I shall attempt to describe here the circumstances of the terrible hand-to-hand fight with cold steel which occurred when the enemy advanced to the pursuit.

Major-General Yamada, the commander of the detachment—consisting of the 44th Infantry Regiment, the 20th Kobi Infantry Regiment, the 11th Infantry Regiment, a battalion of Field Artillery, and a battalion of Mountain Artillery—acting on orders received from the Fourth Army headquarters, gave the order to retire at 6.15 p.m. At 6.30 p.m. the 20th Kobi Infantry Regiment were engaged in a moderately severe musketry duel with the enemy on the right bank of the Sha-Ho. Soon after sundown, when the colour of objects around could not be clearly distinguished, a large force of the enemy, without firing a shot, suddenly appeared close in front of the Kobi Regiment and the right wing battalion of the 18th Infantry Regiment of the 3rd Division, which was connected with the left wing of the Kobi Regiment. With loud shouts the enemy broke through the line of the right wing battalion of the 18th Regiment, to the rear and flank of the Kobi Regiment. No. 1 Company, forming the left wing of the first line of the 20th Kobi Regiment, at once faced about to the south, and engaged the enemy. Owing to the suddenness of the whole affair, and the disparity in numbers, part of this company was driven back to the northern outskirts of a small village in the neighbourhood; the remainder took to flight and joined the 2nd Company. The enemy, pressing on, charged the 2nd Company, and a hand-to-hand combat took place; the company commander and two section commanders were killed, and the company fled eastwards, a small portion taking refuge in the little village mentioned above. The 4th Company of the 1st Battalion of the same regiment (20th Kobi Regiment) took up a position facing west, on the eastern bank of a sunken road; this force was urged to the greatest endeavours, and brought the enemy, who were advancing east after overpowering No. 2 Company, to a standstill on the western bank of the sunken road.

A little before this, the 3rd, 5th and 6th Companies in the

first line received a flank and rear fire from the direction of Wan-pao Shan; while their casualties were increasing fast they saw the flight of a part of the left wing of the first line; mistaking this for the retreat of the 1st Battalion they themselves retired in a south-easterly direction. The 4th Company, under the commander of the 1st Battalion, was thus left alone on the eastern bank of the sunken road, where it offered a stubborn resistance to the enemy until after 8 p.m. A little before this (6.35 p.m.) the commander of the 20th Kobi Regiment, at the south-eastern boundary of a village about 1,000 yards north-east of Hou-san-tao-kang-tzu, received, simultaneously, a report of the enemy's attack and orders to retire from the commander of the detached force (see above). However, as circumstances did not permit him to retire then, he determined to drive off the enemy with a counter-attack. Taking his reserves No. 7 Company (War-flag Company), and No. 8 Company he advanced north with the commander of No. 2 Battalion to the cross-roads in the middle of the village about 1000 yards north-east of Hou-san-tao-kang-tzu, where he delivered a flank charge against the enemy who were opposing No. 4 Company, and drove them from the sunken road.

About this time the regimental commander (20th Kobi Regiment) received a report that the enemy had broken into the temporary dressing station in our rear, from a westerly direction; he at once faced his column about, and, leading No. 8 Company (hitherto the rearmost company), inclined to the right, and advanced westwards from the central cross-roads. A charge was now delivered against a body of the enemy near the temporary dressing station; the enemy's formation was broken, and our men pursued them to the western limits of the village. After advancing north for thirty or forty paces, on the west flank of the village, a large force of the enemy suddenly delivered, with loud shouts, an attack against our front and left flank, and a hand-to-hand combat ensued. The head of our column was decimated, but the remainder delivered a second charge with the greatest bravery.

During this time the enemy who had effected an entrance at the northern boundary of the village, and who were pressing No. 1 Company from the cover of the houses and walls, began to threaten our right flank and rear. In addition to this the enemy in front gradually increased, so that No. 7 and No. 8 Companies were eventually driven back to the neighbourhood of the cross-roads. A body of the enemy now charged along the road from the north towards the cross-roads, but a portion of No. 7 Company, as a result of a desperate fight, drove this enemy out of the village again. (At this time the officers of both companies were already all dead or wounded.) The enemy attempted several charges after this, in order to win back the village, but without success.

The enemy now abandoned the idea of a direct attack on

our front; a part of his force set fire to various places in the west of the village, while the main body advanced southwards and threatened the regiment's line of retreat. Immediately afterwards a portion of the enemy appeared thirty or forty paces to the south of the cross-roads; this force was driven off, and our war-flag planted at a spot about 300 yards south-east of the village. The regiment now came under a rapid musketry fire from the direction of Wan-pao Shan; and as the enemy to the south-west of the village were gradually coming nearer it became impossible to prevent the regiment flying in disorder. An officers' patrol, which had been sent from No. 1 Battalion to establish communication with the 41st Regiment, was fired at from the summit of Wan-pao Shan, and returned; thereupon, the commander of the 20th Kobi Regiment gave orders for a general retreat. It was a little after 8 p.m. when his men began to retire in the direction of Chien-san-tao-kang-tzu.

After the regimental staff had retreated, the commander of No. 2 Battalion, who was still vigorously defending himself near the cross-roads with sixty or seventy men, hearing that there were some wounded men still in the temporary dressing station, attempted to rescue them with his whole force. Although they were able to send twenty or thirty wounded to the rear, the enemy hindered their operations, and again set fire to the village. Owing to this the party retired, abandoning several of the dead and wounded.

The main body of the 3rd, 5th, and 6th Companies, who were falling back towards the south-east, met the regimental adjutant near a pine wood, about 500 yards north of Chien-san-tao-kang-tzu, where he was rallying our routed men. The commander of the 1st Battalion of the 41st Regiment now suggested that an attempt be made to retake Wan-pao Shan. With this object the above three companies reached this hill, when they found that the summit was already in possession of the 41st Regiment. They therefore came under the orders of the acting-regimental commander (Major Inouye), and assisted in the defence of the hill.

The commander of the field artillery battalion received the orders to retire with the rest of the Yamada detachment at 6.40 p.m. He at once gave the order himself to limber up, and for the first line wagons to retreat towards Chien-san-tao-kang-tzu. The guns themselves he entrusted to a captain, while the adjutant took the first line wagons; No. 4 Battery, on the left wing, now evacuated its position, and a mounted orderly was sent to instruct No. 5 Battery to withdraw from its position. The battalion commander, knowing that the road crossing the sunken road on the left of the line of guns, had already been prepared for the passage of artillery, determined to make use of it for his line of retreat. Another reason for this decision was his knowledge that the enemy were gradually crossing the Sha-Ho from the direction of Wan-pao Shan, and pressing

upon our right wing—whereas the left wing had a covering party of infantry, and was thus in a safer condition for retiring.

As soon as No. 4 Battery began to advance along this road in the direction of Chien-san-tao-kang-tzu it suddenly came under a fierce musketry fire; and drivers and horses suffered many casualties. The battery increased its speed, but the enemy almost immediately appeared on its right flank and delivered a charge, which was directed against the off horses, and particularly the wheelers. Eventually the column was brought to a standstill. A portion of our infantry, and the engineers, who were near the spot at this time, opened fire upon the enemy, while the artillery officers and men, with the weapons they were actually carrying, joined in the fight. However, owing to the odds against them, they at last realized that they could not save the guns, so, unhooking the horses, and removing the breech mechanisms and sights, they retreated to Chien-san-tao-kang-tzu.

As soon as he became aware of the sudden halt of the head of No. 4 Battery, the commander of No. 5 Battery, which was following in rear, sent the leading section commander at once to the headquarters of No. 4 Battery to find out what was the matter. On ascertaining the condition of affairs (as described above) he changed his line of retreat and passed by the left flank of No. 4 Battery. During the retreat, the first line wagons in the van had already suffered very great losses, and the battery was unable to continue its advance; eventually the two rearmost guns were just able to make good their retreat to Chien-san-tao-kang-tzu.

As soon as No. 4 Battery found themselves in the desperate straits described above the battalion commander sent an officer to report the fact to Major-General Yamada. After a little time one company from the 40th Kobi Infantry Regiment came to cover the retreat; with this force the battalion commander attempted to retake the guns. But the enemy's strength had for some time past been gradually increasing, so that not only did the Kobi Company suffer very great losses and fail to achieve its object, but it was itself forced to retire.

The commander of the mountain artillery battalion received his orders to retreat from the detachment commander at 6.20 p.m. At 6.30 p.m. he ordered each battery to bring up its pack horses from the rear of its position, and be prepared to retire in the following order:—No. 5 Battery, No. 4 Battery, No. 6 Battery. The enemy's bullets now began to whistle over the positions of No. 5 and No. 6 Batteries, and No. 4 Battery in particular found it almost impossible to carry out any movements. The battalion commander, fearing that the order to retire had not reached No. 4 Battery, sent the following message to the battery commander by the battalion orderly-room clerk:—"No. 6 Battery will fire six rounds in rotation, under cover of which No. 4 Battery will retire." On receipt

of these orders No. 6 Battery prepared to fire their six rounds, but being uncertain whether the orders had actually reached No. 4 Battery or not, delayed the actual firing for a short time. A few minutes later shouts were heard to their right front, which the battalion commander took to be the cheers of our infantry delivering a counter-attack.

Most of No. 5 Battery had, at this time, already begun to load their pack horses; No. 6 Battery now brought up the pack horses to the firing line; and were on the point of firing their six rounds when they heard the shouts in the direction of No. 4 Battery, mentioned above. The battalion commander, fearing that he would cause casualties among our men if he opened fire for the purpose of helping No. 4 Battery, gave orders for No. 6 Battery to retire at once without firing. At the same time he sent an orderly to No. 4 Battery, informing them that No. 6 Battery would not fire, and directing No. 4 Battery to retreat immediately.

This orderly, however, returned without ever reaching No. 4 Battery's position, and reported that the battery had already fallen into the enemy's hands. A little before this, at 6.35 p.m., No. 4 Battery had received the orders to retire under cover of six rounds from No. 6 Battery from the battalion commander, and were making the necessary preparations, when, at about 6.40 p.m., the Japanese infantry in their front began to fall back in disorder. The battery commander learnt from these men that the hill in front had already been occupied by the enemy. This eminence was only about fifty or sixty yards from the right wing of our position, and the walls of the village prevented shrapnel fire being directed against the hill; for this reason orders were given to load the pack horses as fast as possible. When the pack horses were actually being brought into the position, the enemy delivered a charge against the right wing and rear of the position, cheering as they came. Thereupon three or four infantrymen who were falling back fixed bayonets and halted; No. 1 gun had hardly been loaded up when the enemy, increasing in numbers, rapidly rendered further resistance impossible, and the battery retreated, abandoning the remaining guns.

At this time No. 5 Battery had already retired; No. 6 Battery was still engaged in loading up their pack horses, when the enemy appeared about fifty yards from the front of the position, and with loud shouts pressed on to close quarters. The rear of No. 6 Battery was thrown into considerable disorder, but they succeeded in safely carrying out their retreat.

As described above, the field and mountain artillery retired to Chien-san-tao-kang-tzu, the field artillery having lost nine guns, and the mountain artillery five guns. Later on the retreat was resumed, the field artillery battalion falling back to the south of Ku-chia-tzu (Tang-chia-pu-tzu), and the mountain battalion to Chien-huang-chia-tien.

3. Example No. 3 (which is omitted owing to considerations of space) describes a hand to hand combat, which took place during the Battle of the Sha-Ho, in and round the village of San-Tao-Kang-Tzu. The incidents of the fighting, which are narrated in great detail, were generally similar in character to those described in Example No. 2.—Ed., R.U.S.I.

THE RUSSIAN RETREAT AT THE YALU.

4. During the Battle of the Yalu, at noon on May 1st, General Zasulich received reports that our army had made a turning movement round his left wing, and also that the Russian casualties were very heavy. He considered that he had no option but to retire with his whole force to Feng-huang-cheng; and for the purpose of covering his retreat he placed two battalions of infantry and one battery of artillery on a position north of Chuang-shan-tzu. The two infantry battalions occupied some high ground which had an excellent field of fire, but as the surface of the ground was very broken, the artillery were unable to come into action, and retired to the rear.

Our army now pressed hard upon the 12th Russian Regiment, which was preparing to retire northwards with some artillery and a machine-gun battery; and at about 1 p.m. we came to very close quarters, with the 11th Russian Regiment's position. At this time a battery of artillery, which was retreating from the latter position, came under a cross fire from our force, and being unable to advance along the road, halted. The machine-gun battery also halted near here, and opened a fierce fire upon our troops; but in spite of this the battery itself suffered very great losses. The 12th Russian Regiment, guarding their standard, broke through the surrounding Japanese troops; the 11th Russian Regiment remained for a further two hours in their position, in order to cover the retreat of the 12th Regiment. On account of this they were themselves surrounded on both flanks and in rear, and in order to break through the ring of the enemy were compelled to deliver several determined bayonet charges, which caused our advance to waver. The Russian regimental commander was killed in one of these charges, and No. 3 Battalion was almost annihilated. Eventually, at about 4 p.m., the 11th Regiment finally evacuated their position, and passing through Chuang-shan-tzu, continued their retreat through the narrow valley towards Feng-huang-cheng, which place they eventually reached.

5. When the result of the Battle of Te-li-ssu was almost beyond doubt, the enemy's first line showed signs of wavering and began to retreat. Thereupon the commander of our right wing called up his last reserve (No. 6 Company of the 18th Infantry Regiment), deployed them on the high ground south of Wa-fang-wo-peng on the left of his position, and directed them to open a heavy fire upon the retreating enemy. The latter, fired at and hard pressed from every direction, were in desperate straits, and as a last resort decided to assume the

offensive with about one-and-a-half battalions. This force, flourishing their bayonets, suddenly charged against our position, climbing up the steep slope of the hills south of Wa-fang-wo-peng from every direction. Our infantry resisted the attack with a fierce fire, and in conjunction with No. 1 Battalion of the 18th Infantry Regiment (forming the centre of our line), subsequently joined in a bayonet combat; the enemy's men and our troops were mixed together in indescribable confusion. A flank fire from other directions was now brought to bear upon the enemy on the slope, who were eventually nearly all shot down. Although this counter-attack met such a terrible fate, yet it enabled some of the enemy to make good their escape from the Japanese bayonets.

(E.) During Rain and in Fog.

During the early part of the Battle of the Sha-Ho, on October 10th, our army in the direction of Pen-hsi-hu, taking advantage of a thick mist which had continued since dawn, recaptured by means of a bayonet charge some high ground east of this place. They then also won back the hill to the east of the interval between Pen-hsi-hu and Hoa-lien. The enemy advanced again to the charge against the latter position, and were eventually driven off after a hand-to-hand bayonet fight.

The fact that both sides used cold steel on this occasion was due to a heavy mist which rendered the attack similar to a night engagement, and so caused both forces to rely upon the *arme blanche*.

(F.) In Fortress Warfare.

Throughout the whole of the siege of Port Arthur the *arme blanche* was used without exception in every engagement. The following may be cited as being the most desperate and terrible of the numerous general assaults carried out by the Japanese Army—viz., the capture of Fort Kuropatkin; the attacks on Erh-lung Shan and Sung-shu Shan; and the fearful struggles on 203 Metre Hill. During the siege of the fortress it was absolutely necessary to make use of cold steel in order to dislodge the enemy, owing to his strength and to the obstinacy with which he defended his earthworks and fortifications.

(To be concluded.)



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THE NAVY AND THE CORONATION

By JOHN LEYLAND.

THE custom of gracing a Sovereign's Coronation with the magnificence of a naval review appears to be of entirely modern origin. So far as the writer is aware no record exists of any Coronation Naval Review before that of 1902. Probably this may be attributed to restricted means of communication and travel in earlier times. It was scarcely possible for a monarch, constantly engrossed in state affairs, to be crowned on one day, make a Royal Progress through London on the next, and review the Fleet at Spithead on the third day.

The Navy has usually celebrated the Sovereign's Coronation by salutes and rejoicings, as it has celebrated other great occasions, and an inquiry into this matter might lead one into a discussion of the whole subject of salutes. Much would no doubt depend upon individual enthusiasm and fancy in times when matters were not so well regulated as they have become in modern times. Parson Teonge tells that when the *Assistance* dropped down the Thames in 1675, and the women were sent ashore at Dover, they were saluted with "three cheares, seven guns, and our trumpets sounding." Twenty-one guns and manning the ship was the salute which Bartholomew James (N.R.S., Vol. VI., p. 71) tells us was accorded to the Indian King, Princes, Generals and Chiefs at the Black River, on the Mosquito Coast, in 1779.

There was a Royal Review, as well as a sham fight at Spithead in 1778, of which James Anthony Gardner gives an account (N.R.S., Vol. XXXI., p. 10), but it took place some sixteen years after the King's Coronation.

"My Lord, you give a fight in sham,
A Spithead fight not worth a damn,
And that's your Lordship's epigram."

When His Majesty went afloat on that occasion the flag officer and captains attended in their barges, Sir Thomas Pye, Admiral of the White, Port Admiral and senior officer, leading the van. The Royal Standard was hoisted on board the *Prince George*, and there was a "grand salute" from the whole of the men of war, "which was repeated several times during the day." The occasion was one of public rejoicing, and Gardner says that thousands of boats full of spectators attended at Spit-

head. Visitors were on board the ships, and he adds, of the *Conqueror*, that "the ladies didn't much like the firing, and one of them had a tooth knocked out by biting the frame of the quarter-gallery window when the after gun on the main deck went off."

Pepys has a good deal to say about the Coronation of Charles II., but nothing of the naval ceremonial. He mentions, however, the bearing of the canopy over the King by Barons of the Cinque Ports, and alludes to some disorder which arose from the King's footmen seizing the canopy in an endeavour to deprive the Barons of their right. Heath's Chronicle, quoted in the Life of Sir William Penn, describes how "the Navy" erected a triumphal arch near the Exchange in Cornhill. Two stages were on the east front, one on each side of the street, and on that on the south side was a figure representing the river Thames. The other stage was constructed to resemble the upper deck of a ship, and there were three seamen, "whereof one habited like a boatswain."

A shield bore the inscription :—

"Neptuno Britannico
Carolo II.,
Cujus arbitrio
mare
Vel liberum vel clausum."

There was also a picture or representation showing King Charles I., with the Prince his son, then Charles II., viewing the *Sovereign of the Seas*, the Prince leaning on a gun. The motto was :—

O nimium dilecte Deo, cui militat aequor,
Et conjurati veniunt ad classica venti.

For thee, O Jove's delight, the seas engage,
And mustered winds, drawn up in battle, rage.

The thunder of the guns at the ports is not recorded, but may nevertheless sound in the ears of imagination.

Rooke's Journal records the naval ceremonies at the accession of Queen Anne 1702. "Thursday, March 12—upon hoisting our colours this morning, ordered all the ships to fire guns as an expression of joy on Her Majesty's happy accession to the Crown—viz., each third-rate 24, and each fourth-rate 21, the rest as many as they can, which they did altogether accordingly." The log of the *Victory* records the celebration afloat at the Coronation of the Queen, April 23rd—"All ships appeared in all their colours and fired guns with small shott and fire-works."

It is chiefly in ships' logs that naval celebrations on the

occasion of royal coronations are recorded. Thus, of the coronation of George II., October 11th, 1727: "At noon spread all colours and celebrated the coronation of his present Majesty to the throne by a general discharge of one and twenty guns from all the ships." The log of the *Royal Sovereign* records the ceremonial at the coronation of George III., at Portsmouth and Spithead, September 22nd, 1761: "8 a.m., Drest ship, being his Majs. Coronation Day, of King George the Third being crowned. 1 p.m., Fired 21 guns, as did all his Majs. ships at Spithd., attended with cheers according to the seniority of their captains." The men in those times rejoiced in seamanlike fashion, with extra allowances of grog. Nowadays they have grog also—or its equivalent.

In a similar way were celebrated the coronations of later Sovereigns. Not a few officers who had fought in the great war were present, serving afloat in various parts of the world, when twenty-one guns and the spreading of bunting marked the rejoicing of the Navy at the coronation of George IV. At the time of the coronation of William IV., September 8th, 1831, the Channel Evolutionary Squadron, as it was called, was at Spithead under command of Sir Edward Codrington, and the ships were dressed with flags, and fired a royal salute. It does not appear that they had been brought to Spithead for the purpose.

Similar ceremonies greeted the coronation of Queen Victoria in 1838. Ships dressed, salutes were fired, bands played, and at Plymouth a *feu de joie* at Mount Wise greeted the day. Curiously enough, the Mediterranean Squadron celebrated the day in the harbour of Toulon, Sir Robert Stopford (who had been one of Nelson's captains off the port) being in command.

The Royal Review at the coronation of King Edward VII. was thus a happy innovation, and the Coronation Review of the present monarch is likely to confirm the custom, and to make a Naval Review a permanent feature of all future coronation ceremonies.



RECORDING AND COUNTING HITS AT FIELD FIRING.

Communicated to "*Streffleur's Oesterreichische Militärische Zeitschrift*," December, 1910, by the Austrian School of Musketry.

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THE instructional value of a field-firing exercise to those who take part in it, and to onlookers, depends, to a great extent, on the manner in which the subsequent conference is held. The director of the exercise cannot observe and record everything himself; he must have a proper organization to record the facts on which his criticisms are based and to discover the causes of success or failure. This requires an organized staff to record the procedure at the firing points and count the hits on the targets.

It is here proposed to give an outline of the procedure of the range and recording staff.

The records of the exercise must cover (a) the whole procedure of the firing detachment; (b) all matters relating to the targets; (c) the effect of the fire.

The commander at the firing point is called upon, after (not during) the series to give a brief account of his procedure. This is supplemented by the report of the recording officer at the firing point. It will be found that the orders given do not always exactly correspond with the orders carried out; that mistakes have arisen owing to imperfect hearing or understanding of orders, delays have arisen owing to orders being given at too great a length, men have fired at wrong targets, and many other points of importance will be recorded which do not appear in the fire-commander's report.

At individual independent fire a number of recording officers will be required to take note of the procedure of individual men, whereas, when the fire is controlled by an officer, the recorder's attention will be devoted principally to his procedure, and to that of his staff. Recording officers must never criticise, but furnish a careful record of facts. They must never interfere in any way with the practice.

The following points should be noted by the recorders:--

(a). *Fire-Commander*: his procedure as commander and fire-director, including reconnaissance, protection, distribution and employment of his force; range-finding or distance-judging, finding the elevation, fire for effect, alterations in target, aiming point, and elevation; personal bearing; all orders recorded word for word.

(b). *Firing Detachment*; number of men firing, rounds fired, direction of fire; so far as possible, rounds fired in each phase of the combat; fire-discipline, intelligence and initiative of individuals.

(c). In order to supply the necessary logical connection between the procedure of the fire-commander and his force and

the tasks which they are required to execute, a full record must be kept of the appearance and disappearance of targets as seen from the firing point.

The successive positions of the firing detachment, and of the targets fired on, are recorded simply by lines marked on the sketch map.

At first sight it would seem that the recording staff will have no time to note down the whole of the above details. But, as a matter of fact, many of the points (such as strength of firing detachment, atmospheric conditions, etc.) can be recorded before the firing commences, while others, such as ammunition expended, can be noted at leisure after the series has been fired. The director must inform his staff of the object of the exercise, in order that they may know to which points special attention is to be paid.

Criticism by the director should never degenerate into mere fault-finding; this would cause the recording officers to be looked upon by their brother officers as tale-bearers, and would tend to induce them to suppress records of errors which they may notice.

Some recording officers may, when the ground permits, be stationed as advanced or flank observers, to record the visible effect on the target and the area covered by the zone of fire.

The Musketry Regulations lay down that a record of effect is to be kept, but not how this is to be done. It will not be sufficient, as a rule, merely to record the number of hits and of figures struck; the distribution of the hits should also be recorded. For this purpose the target area is divided into sections, each in charge of an under-officer, who is provided with a target sketch, upon which the targets in his section are shown by very simple conventional signs. These targets are numbered, and each target is shown on a separate slip, so that the under-officer can mark off the figures struck and enter the number of hits and of figures struck. After the practice these slips are handed in to the range officer and pasted on to a large "target sheet," which gives a record of the whole of the shooting. The target sheet is a large-scale sketch map of the target area.

The target sheet shews at a glance the distribution of fire, and if the proper orders in this respect have been given, and one section of a target remains untouched, the defects in the fire-discipline can be easily pointed out. For instance, if, on a target representing a column advancing, 12 hits were made on 8 out of the 24 figures, the effect, so far as the numbers go, would be considered good; but, if the target sheet showed that these 8 men were at the rear of the column, it might be pointed out that the officer directing the fire would have done better if he had brought his cone of fire to bear on the head of the column. Similarly, if the target represented a section in line, and fire was correctly distributed and brought to bear on the tactically important flank, the target sheet would make this fact clear.

II. JUDGING DISTANCE AND RANGE FINDING.

The Machine-Gun Regulations lay down that instruction in the use of the rangefinder is to be combined with judging distance. It is considered that the men have so much to learn that there will not be time to take them away from their work for two successive courses; therefore these courses must be carried out together in the Machine-Gun Section. All officers and men of the Section should be instructed both in rangefinding and judging distance.

Judging Distance.

PREPARATORY PRACTICES.—1. Impressing on the men the appearance of several standard distances, up to 800 paces.

2. Judging distance to markers, who are placed at one side of a line of distance posts.

3. Judging distance to objects within 800 paces.

4. The man is called upon to say whether certain objects are within or beyond 800 paces.

5 to 10. Repetition of 2, 3, and 4.

FURTHER PRACTICES.—11. Impressing on the men the appearance of the standard distances 1,000, 1,200, 1,400, 1,600, 1,800, and 2,000 paces, marked by a line of posts.

12. As 11, on different ground.

PRINCIPAL PRACTICES.—Distance-judging at short, medium, and long distances in different positions of the body, carried out at least twice a day.

REMARKS.—In all practices the ground should be changed at each practice, or at least the distances should be judged in different directions. Records to be kept of each man's performance in the principal practices only.

Rangefinding.

PREPARATORY PRACTICES.—1. Instruction in the instrument.

2. Measuring backwards (1).

3. Holding instrument correctly, and instruction regarding the appearance of objects in the mirrors.

4. Picking up the object quickly in the mirror. Selecting a point in the object of which to take range.

Fixing the cord to the bayonet stuck in the ground, and pacing the base quickly.

Picking up the object again from the other end of the base.

PRINCIPAL PRACTICES.—5. Various ways of rangefinding.

6. Choice of position, and rangefinding, kneeling.

7. Various methods of rangefinding.

8. Rangefinding, kneeling.

9 to 13. Practice in accurate rangefinding deliberately, and in quick rangefinding. Practical exercises.

REMARKS.—As for judging distance.

(1) This appears to mean working backwards from a short, measured range.—Translator.

The following information regarding the German Colonies is extracted from the Colonial Estimates, which came into force on the 1st April, 1911, and from the *Jahrbuch über die Deutschen Kolonien* (1911).

I. GENERAL

EXPENDITURE.—The total of the Imperial subsidies to the various Protectorates is £1,287,396, a decrease of £184,579 from the preceding year. This sum is made up as follows :—

	£		£
East Africa	177,139	New Guinea and South Sea Islands	37,979
Cameroons	116,078	Kiao Chau	385,408
South-West Africa	570,792		

Togoland and Samoa receive no subsidy, and contribute £500 and £100 respectively to Imperial funds.

Total Expenditure

The total expenditure of the Protectorates for 1911-12 is as follows :—

1911-12. Difference
(estimated) from 1910-11

	£	£
East Africa	1,610,991	+ 28,665
Cameroons	1,084,050	+ 496,652
Togoland	167,184	— 120,632
South West Africa	2,199,901	+ 206,165
New Guinea and South Sea Islands	109,171	— 5,922
Samoa	46,607	+ 8,346
Kiao Chau	677,141	+ 41,347
Contribution to Debt	236,237	+ 86,283
Total ...	<u>£6,131,282</u>	<u>+ £740,904</u>

Expenditure on Military and Police Services combined.

1911-12.
(estimated)

	£
German East Africa	271,397
Cameroons	170,579
Togoland*	7,061
South West Africa	879,558
New Guinea*	37,050
Samoa*	2,475
Kiao Chau	268,249
Total ...	<u>£ 1,636,369</u>

* The Protectorates marked with an asterisk have only police troops.

Establishments of Military and Police Forces in the German Protectorate.

	Troops.		Police.		Total.
	White	Colour'd	White	Colour'd	
German East Africa	270	2,552	43	1,840	4,705
Cameroons	170	1,350	12	570	2,102
Togoland	—	—	8	416	424
German S. W. Africa	2,179	635	728	316	3,858
German New Guinea and South Sea Islands	—	—	2	700	702
Samoa	—	—	—	50	50
Kiao Chau	2,510	—	30	100	2,640
Total.	5,129	4,537	823	3,993	14,481
Grand total of military and police personnel.	9,666		4,815		14,481

**

We will now consider the various Protectorates separately :—

II. THE CAMEROONS.**Military Services.**

ORGANIZATION AND ESTABLISHMENTS.—The total expenditure on military services is £118,838, a decrease of £355 from the preceding year.

The estimates provide for an establishment of :—

White Troops—Officers	... ...	... ...	68
N.C.O.'s	... ...	... ...	102
Total	170		

Native Troops—Number not stated, but is apparently the same as last year (except for an addition of 50 carriers for the company at Duala), viz :—

Troops	...	...	...	...	...	1,300
Carriers	...	...	...	...	...	50
Total	1,350					
Total, White and Coloured	1,520					

No table showing the number of units is given in the Estimates, as in the case of East Africa and South-West Africa, but the *Jahrbuch über die Deutschen Kolonien* gives the following information regarding the position at the end of the year 1910:—

The companies are organized in 3 main groups, viz:

The "North-West Group" (6th, 8th, and 2nd Companies).

The "Islam Group" (4th, 7th, and 3rd Companies).

The "South-East Group" (5th, 9th, and 10th Companies).

The "Expeditionary Company" (the 8th Company at Jang) acts as a mobile reserve for the whole. The 10th Company at Jaunde (from Lomé) acts as a special reserve for the South East Group. The 3 companies in this group were, during 1910, placed under the late Major Dominik for joint action.

The 8th Company has received an increase of 35 men, while the Native establishment of companies in the interior is increased by 185 men (the number of the contingent annually discharged from the colours) during the period between the departure of the discharged men and the arrival of the recruits from the coast.

It is stated in the Estimates that the mounted detachments formed for the two companies in the neighbourhood of Lake Chad have quite justified their existence. It is necessary, however, to increase their strength, and money is now granted for 30 more horses and sets of saddlery for the 7th Company at Garua, so as to increase its mounted detachment to 60.

The Company at Duala is to be increased by 50 carriers, in order to enable it to move rapidly inland, if required.

Armament.

MACHINE GUNS.—The estimates state that the number of machine guns required is as follows:—

For 9 field companies	...	...	...	2	each = 18
For 15 stations	...	...	...	1	each = 15
Total	...	...	...	33	

The numbers already possessed are	...	...	...	20
Add 3 granted in 1910	...	...	...	3
Add 3 demanded in 1911-12	...	...	...	3
Wanting to complete	...	...	...	7

Artillery.—The *Jahrbuch* states that the artillery is to be strengthened by four 6-cm. mountain guns from South-West Africa, of which one has already been received. The number of guns in the Protectorate will then be:—

Six 6-cm. mountain guns for use in the field.

Four 9-cm.

Four 3.7-cm. guns, as position artillery at important posts.

Small Arms.—Smokeless powder ammunition has been received for the 71 rifle, which has been fitted with an extractor.

The 3rd and 7th Companies, which have magazine rifles, have received the "S" (pointed bullet) ammunition.

DEFENCES.—The old principle of having a defensible enclosure round every station has been given up, as it required a prohibitive number of troops. The method to be adopted in future is to build blockhouses ("reduits"), varying in size according to circumstances, in which ammunition, water, rations, money, etc., can be deposited, and capable of defence by a small garrison, thus leaving the remainder of the troops free for offensive purposes.

In accordance with this policy, money is allotted for defences at Banjo, Jang, Mbo, Ebolowa, and Abong-Mbang (the latter place lies between Lome and Dume, and is considered a point of strategic importance). A massive ammunition store is to be constructed at Duala.

Police Services.

The expenditure on police services is £51,741, an increase of £2,793 from 1910-11.

The establishment provided for is as follows:—

White personnel 12 officers, N.C.O.'s and officials; Native personnel 570; Total 582.

Recapitulation for the Cameroons.

Military Expenditure	£118,838
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Police Expenditure	51,741
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Total	£170,579
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White	Coloured	Total
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Military Establishments	170	1,350	—	1,520
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Police Establishments	12	570	—	582
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Total	182	1,920	—	2,102
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III. TOGOLAND.

The total expenditure on police services is £7,061, an increase of £1,061 from the preceding year.

The police establishments provided for in the estimates are:—

White personnel	...	...	...	...	...	...	8
Native personnel	...	...	...	...	...	416*	
						424	

IV. GERMAN SOUTH-WEST AFRICA.

Military Services.

EXPENDITURE.—The total military expenditure for 1911-12 amounts to £710,468, an increase of £12,091 on the figures for 1910-11. The above total includes £25,330 for maintenance and replacing of livestock, and £191,400 for the supply of the troops, and livestock, £194,830 for pay of troops, and £1,000 for increasing the reserve of artillery ammunition.

ESTABLISHMENTS.—The establishment provided for in 1911-12 is as follows:—

						Total
						Number Personnel
Headquarter Staff, etc.	...	...	...	...	—	115
Field Companies (including railway construction companies)	...	...	...	...	10	1,194
Machine Gun Detachments	...	...	...	...	3	153
Field Battery (4 guns)	...	...	...	...	1	121
Mountain Batteries (4 guns)	...	...	...	...	2	240
Telegraph and Signalling Section	...	...	...	...	1	183
Supply Offices	...	...	...	...	5	17
Hospitals	...	...	...	...	3	35
Medical Depots	...	...	...	...	2	5
Artillery and Transport Depots	...	...	...	...	2	24
Remount Depots	...	...	...	...	2	84
Clothing Depots	...	...	...	...	2	8
Total Europeans	...	...	...	...	—	2,179 ⁽¹⁾
Natives	...	...	...	...	—	635 ⁽²⁾
Grand Total						2,814

* The number of native personnel for this year is not given in the Estimates, but it is apparently the same as last year.

(1) The total for the white troops (2,179) includes:—

131 officers (including medical and veterinary officers).

586 non-commissioned officers.

1,418 privates.

44 officials, etc.

2,179

(2) The native personnel includes:—

535 drivers, labourers, etc.

100 orderlies



ARTILLERY AMMUNITION.—It is stated in the Estimates that the present reserve of ammunition for the three 4-gun mountain batteries is 280 rounds per gun, but that this is considered insufficient because, in case of war, it could not be supplemented from Germany. It is therefore intended to raise it to 560 per gun; in 1911 provision is made for 150 additional rounds per battery, making the total 317.5 rounds per gun.

HORSES AND LIVESTOCK.—Details regarding the purchase of horses and livestock for civil and military purposes are given in some detail in the Estimates.

The numbers of livestock belonging to the State are as follows:—

(a) Civil :—	Horses	Mules	Oxen	Camels
Governor and Staff 190 276 740 —				
Police Troops 1,042 150 200 18				
	1,232	426	940	18
(b) Military :—	2,155	1,434	1,194	500
Total civil and military state-owned animals	3,387	1,860	2,134	518

Provision is made to replace a percentage of the above animals by purchase during the year 1911, viz:—

498 horses at a total cost of £17,430
185 mules " " 3,700
274 oxen " " 2,466

Provision is made for oats at 6.6 lbs. a day for horses of the Governor and Staff; at 8.8 lbs. a day for horses of the police and troops; at 4.4 lbs. a day for all mules, and at 2.2 lbs. a day for military camels.

This amounts to a total of 7,030 German tons* a year.

In addition, hay is provided in the northern district at the rate of 40 tons a month from local sources; and in the south at the rate of 80 tons a month from Argentina.

Police Services.

The total expenditure on police services in 1911-12 will be £169,094.

The Estimates provide for an establishment of:—

European:—

Major (Inspector)	1
Other officers	8
Paymasters, etc.	3
N.C.O.'s and Policemen	716

Total 728

Natives:—

Native employés in the police service	316
Total European and Native personnel	1,044

The above is an increase of 20 from the preceding year, viz:—

White, three lieutenants and 2nd lieutenants, and one assistant paymaster; and native personnel, 16.

Provision is made for the upkeep of the following equipment for the police troops:—

1,000 saddles.	
180,000 rounds of "S" (pointed bullet)	practice ammunition.
72,000 rounds of revolver.	

Recapitulation of South West Africa.

	1911-12.
Military Expenditure	£710,464
Police Expenditure	169,094
Total	<u>879,558</u>

* Approximately the same as a British ton avoirdupois.

	White	Native	Total
Military Establishments	2,179	635	2,814
Police Establishments	728	316	1,044
Total	2,907	951	3,858

V. GERMAN EAST AFRICA.

Military Services.

ESTABLISHMENTS.—The total military expenditure for 1911-12 is £186,417, a decrease of £7,000 from the preceding year.

The military establishment provided for in the Estimates consists of:—

	Number	Total	Strength
Staff	38
Native field companies	14
Machine gun detachment	7
Signalling detachment	1
Recruit dépôt	1
Employed in the civil administration	...	—	84
Total white personnel	...	—	270
Native soldiers	...	—	2,552
Grand Total	...	—	2,822

The white *personnel* consists of:—

114 officers (including medical officers).

132 non-commissioned officers.

24 officials, etc.

Total 270

The native *personnel* consists of:—

2 native officers.

189 under officers.

2,321 native soldiers.

20 bandsmen.

Total 2,532.

Of the 2321 native soldiers 150 are recruits, and 84 are under instruction as signallers. In addition £233 is demanded for training native ex-soldiers (the number trained is not stated), £4,500 is demanded for providing military carriers for the native companies (the number of carriers is not stated, but at the

rate of pay allowed for in the Cameroons, this sum would provide 375 carriers), and £1,100 is demanded for permanently employed military labourers.



For meaning of symbols see map on page 1046.

Distribution.—Kilimatinde is to be made into a district; the headquarters of which will be at Dodoma; a locomotive changing station and railway workshops will be built at the latter place. The field company now stationed at Kilimatinde is to remain there, as the existing barracks will be made use of. The military post at Mkalama will now become of secondary importance.

A sum of £5,000 is allowed for barracks for 200 Askaris at Dar-es-Salaam, and £1,000 for barracks at Kondoa-Iringi.

Defences.—The police post at Kissaki,* which was substituted for the troops formerly stationed at that place after the rising in 1903, is a strong position for defence, lying as it does at a point between ranges of hills to the north and south. It forms a natural barrier against any advance from the south against Dar-es-Salaam and the Central Railway. It is therefore, to be put in a state of defence without delay. A sum of £3,200 is allowed for this purpose.

*Fifty miles South of Morogoro.

THE GERMAN COLONIES IN AFRICA.



The shaded portion of the French Congo represents the territory referred to on page 1080 (twelfth line from foot of page).

Police Services.

The total expenditure on police services amounts to £84,980, an increase of £3,970 from the previous year.

The police establishments provided for are as follows--

(a) White Personnel :—

(b) Native Personnel :—

b) Native Person

Police depot :—

N.C.O's. and Askaris 120

Total White and Native 1,883(1)

Armament.—The machine guns of the police are worn out, and would be useless in case of a rising. Experience has shown that it is only the presence of a machine gun in a post which will overawe the natives, and prevent risings. An instalment of £1,500 is allotted in this year's Budget for the purchase of three machine guns, which are to be stationed at Moschi, Schirati, and Kissaki.

Recapitulation of East Africa.

Military Expenditure	...	...	...	£186,417
Police Expenditure	...	...	...	84,980
Total ...	...	...	...	£271,397

	White	Coloured	Total
Military Personnel	270	2,552*	2,822
Police Personnel	43	1,840	1,883
Total	313	4,392	4,705

(1) Total increase from 1910-11 = 141.

* Does not include military carriers, military workmen, ex-soldiers called up for training, or irregular native levies, regarding the strength of which no figures are given.

KIAO-CHAU AND NORTH CHINA.**Military Services.**

The total military expenditure for 1911-12 is £259,442.

The estimates provide for an establishment of :—

Staff of the Governor	4
Marine Infantry	1,321
Marine field battery	170 ⁽¹⁾
Naval artillery division	760
Naval division	35
Detachment of dockyard artificers	65
Artillery and Fortification Department	41
Intendance, Chaplains, and Barrack Departments	16
Medical personnel	80
Paymasters	18
Total	2,510 ⁽²⁾

The average ration strength of the garrison is given at 2,352 (or 2,432 for three months in the year), viz :—

2,138 in Tsingtau (add 80 for three months in the year); 80 outside Tsingtau; and 134 in the East Asian Detachment.

The numbers of horses (or ponies) and other animals are :—

Kiao Chau : 201 horses, and 142 mules (or ponies), besides 83 horses of officers, etc., for whom allowances are given, making 284 horses in all.

East Asian Detachment : 35 riding and draught animals.

Police Services.

The total expenditure on police services amounts to £8,807, a decrease of £48 from 1910-11.

The estimates provide for an establishment of :—

White :—

Chief of Police	1
Other ranks	29
Total	30

(1) Increased to 252 during 3 months of the year.

(2) The following details in the home country are also provided for out of the Budget :—

Marine Infantry	671
Marine field artillery	82
Naval artillery	34
Paymasters	9

796

Chinese:—

The number of Chinese Police appears to be 100.

Total 130
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Recapitulation of Kiao Chau.

Military Expenditure	£259,442
Police Expenditure	8,807

Total	268,249
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	European	Native	Total
Police Establishments	30	100 130
Military Establishments	2,510	— 2,510
Total	2,540	100 2,640

VII. WESTERN PACIFIC.

NEW GUINEA AND ADJACENT ISLANDS.

The total expenditure for police services in 1911-12 is £37,050, an increase of £7,288 from 1910-11.

The Estimates provide for an establishment of:—

White Officials 2
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Natives:—

New Guinea and Admiralty Islands	572
East Carolines	50
West Carolines	66
Marianne Islands	... ...	30
Marshall Islands	... ...	27
Total ...	... ...	700

In addition there are twelve harbour and customs police.

Owing to the expense of maintenance of police, only 477 men could be raised in New Guinea instead of the 527 allowed for in the 1910-11 Budget. It has become necessary to provide a post of 50 police on the Admiralty Islands, and to raise the strength of the police in West Caroline Islands by 30 men, making a total increase of 20 on the number allowed for in the 1910 Budget. An officer (lieutenant) has also been provided to superintend the military training of the police.

SAMOA.

The expenditure on police services in Samoa in 1911-12 is £2,475, an increase of £290 from 1910-11.

The estimates provide for an establishment of :—

White officials	...	...	...	...	...	1
Native Police Troops	...	...	...	...	...	30
Native District Police	...	...	...	...	...	20
Total	...	...	...	...	...	51

NAVAL AND MILITARY CALENDAR.

JULY, 1911.

- 1st (Sat.) Launch of first-class armoured cruiser *New Zealand* from the Fairfield Yard, Govan on Clyde.
- 3rd (Mon.) Review of Officers' Training Corps at Windsor by the King.
- 4th (Tues.) H.M.S. *Hercules* commissioned at Portsmouth for Home Fleet.
- 10th (Mon.) Launch of first-class battleship *Poltava* from the Admiralty Works on the Neva for Russian Navy.
- 13th (Thur.) Investiture of H.R.H. the Prince of Wales at Carnarvon Castle.
- " " Signature of the New Anglo-Japanese Treaty.
- 14th (Fri.) Launch of second-class training-cruiser *Ying Swei* from Messrs. Vickers' yard, at Barrow, for Chinese Navy.
- 31st (Mon.) H.M.S. *King Edward VII* paid off at Portsmouth.
- " " H.M.S. *New Zealand* paid off at Devonport.

NAVAL NOTES.

THE PRINCE OF WALES.

The following appointment was announced at the Admiralty on the 29th ult. :—

Midshipman.—H.R.H. the Prince of Wales, K.G., to the *Hindustan*, to date August 1st.

HOME.

The following are the principal appointments which have been made :—

Admiral Sir Richard Poore, Bart., K.C.B., C.V.O., to be Commander-in-Chief at the Nore. Rear-Admiral C. G. F. M. Cradock, C.B., M.V.O., to be Rear-Admiral in Atlantic Fleet. Captains—S. E. Erskine to *Pembroke* and as Commodore 2nd class in command of R.N. Barracks, Chatham; E. P. F. Grant to *Falmouth*; H. L. Mawbey to *Dartmouth*; E. G. Barton to *Africa*; A. H. Williamson, M.V.O., to *King Edward VII.* and as Flag-Captain to Vice-Admiral H.S.H. Prince Louis of Battenberg, G.C.B., G.C.V.O., &c.; F. O. Gilpin-Brown to *New Zealand* and as Flag-Captain to Rear-Admiral Limpus; C. F. Corbett to *Flora*; J. E. Drummond to *Cambrian*; P. Streatfield, M.V.O., to *Crescent*; S. R. Drury-Lowe to *Gibraltar*; F. A. Powlett to *Isis*; R. A. Allenby, M.V.O., to *Téméraire*; P. H. Colomb to *Pembroke* and as Flag-Captain to Admiral Sir R. Poore. Commanders—G. Trewby to *Adventure*; R. C. Lambert to *Sentinel*; P. W. Hill to *Prosperine*; H. C. Carr to *Psyche*; F. H. Mitchell to *Pyramus*; O. M. Makins to *Apollo*; J. E. Cameron, M.V.O., to *Patrol*.

Admiral Sir R. Poore, Bart., K.C.B., C.V.O., who is appointed to succeed Admiral Sir C. Drury, G.C.V.O., K.C.B., K.C.S.I., as Commander-in-Chief at the Nore, will hoist his flag on the 27th inst., on taking up his appointment.

The new first-class battleship *Hercules* was commissioned at Portsmouth on the 24th ult., as flagship of Vice-Admiral Sir G. Callaghan, K.C.B., K.C.V.O., Commanding the 2nd Division of the Home Fleet, in place of the first-class battleship *King Edward VII.*, the flag of the Vice-Admiral being transferred to her the same day. The *King Edward VII.* was paid off on the 31st ult. at Portsmouth and recommissioned on the 1st inst. for service as flagship of Vice-Admiral H.S.H. Prince Louis of Battenberg, G.C.B., G.C.V.O., &c., Commanding the Third and Fourth Divisions of the Home Fleet; she arrived at Sheerness on the 4th inst., and the flag of Prince Louis was immediately transferred to her from the *Africa*. There are now four ships of the *King Edward VII.* class in the Third Division of the Home Fleet. The first-class battleship *New Zealand*, one of the *King Edward VII.* class, lately forming one of the Second Division of the Home Fleet, was paid off at Devonport on the 31st ult., and recommissioned on the 1st inst. as flagship of Rear-Admiral A. H. Limpus, Commanding the Portsmouth Sub-Division of the Third Division of the Home Fleet;

on recommissioning the name of the *New Zealand* was changed to that of *Caledonia*, in view of the name *New Zealand* having been given to the battle-cruiser building at the charge of the New Zealand Government. The *Caledonia* arrived at Portsmouth on the 4th inst., the flag of Rear-Admiral Limpus being transferred to her from the *Prince George*, which joins the Plymouth Sub-Division of the Third Division of the Home Fleet. The new first-class battleship *Colossus* is to commission at Devonport to take the place of the *New Zealand* in the Second Division of the Home Fleet.

The second-class cruisers *Flora* and *Cambrian*, attached to the China and Australian Stations respectively, and the third-class cruisers *Pyramus* and *Psyche* on the Australian Station, are to be recommissioned at Colombo, new crews for these ships embarked at Portsmouth and Devonport on the 8th inst., in the cruisers *Crescent* and *Gibraltar* respectively, which left Colombo the same day, and will bring the paid off crews back to England.

The Dominion Navies.

The Memorandum, which was drawn up at the recent Imperial Conference, defining the stations of the Dominion Navies, and their relations with the Royal Navy was laid before the Canadian Parliament on July 28th, and was published in London as a Parliamentary Paper on July 31st.

As the Memorandum bears on the subject of the (Naval) Gold Medal Essay for 1910, it may be interesting to compare its decisions with the proposals put forward in the Prize Essays.

(1) In the case of the Gold Medal Essay (See JOURNAL, April, 1911, page 454), the writer rejected, as unsound, the policy of Colonial Navies, and recommended that the Dominions should assist in the naval defence of the Empire by rendering themselves strong against attack, by the maintenance of naval bases and coaling stations in their territories, and by money contributions so far as they could afford.

As, however, the Memorandum appears to be based on the acceptance of the opposite policy, as adopted by the Imperial Conference of 1909, and provides for carrying it into effect, no close comparison is possible between the two solutions, except in the case of Clause 4, which agrees, so far as it goes, with the recommendations of the Essay. ...

(2) The subject of the relations between the Admiralty and the Dominion Navies was dealt with in some detail in the Second Prize Essay (see JOURNAL, May, 1911, page 454).

It must, however, be borne in mind that the Essay in question was concerned with the naval organization of the Empire as a whole, whereas the Memorandum deals only with the navies of Australia and Canada.

The following are the chief points to note as regards this essay:—

(a) The writer of the Essay provided for decentralization without localization of naval defence through an Imperial Admiralty (in which the Dominions were represented), and local Navy Boards. The former was to control the administration of the fleet, its preparation for and conduct during war, while the Navy Boards were charged with the provision of material and personnel. The Memorandum provides for decentralization

Dominions—continued.

by giving the Canadian and Australian Navy Boards control over the materiel and personnel in peace, while allowing the Admiralty to take these over in war, if and when the Dominion Governments so decide.

(b) As regards movements of ships the solution proposed in the Second Prize Essay was that the Navy Boards referred to above should, in consultation with the Commander-in-Chief, settle the peace movements of all ships on their station; the Memorandum apparently does the same (*see* paras. 5 and 9), for the Canadian and Australian Navy Boards will appoint their own Commander-in-Chief who will be senior to the commander of any British ship on their stations, while outside their stations their ships are under the Admiralty.

(c) In the Second Prize Essay the promotion of officers and their appointment to seagoing ships was left to the Imperial Admiralty, their entry and home training to the Navy Boards; the Memorandum leaves nearly the whole of this to the three separate Governments.

The Essay provided that there should be a definite proportion between the number of officers from each part of the Empire and the sum spent by that part on material; the Memorandum leaves a Dominion free to provide as many officers as it likes, but it can only appoint them to its own ships.

Text of the Memorandum.

1.—The naval Services and forces of the Dominions of Canada and Australia will be exclusively under the control of their respective Governments.

2.—The training and discipline of the naval forces of the Dominions will be generally uniform with the training and discipline of the Fleet of the United Kingdom, and by arrangement the officers and men of the said forces will be interchangeable with those under the control of the British Admiralty.

3.—The ships of each Dominion naval force will hoist at the stern the white ensign as the symbol of the authority of the Crown, and at the Jack staff the distinctive flag of the Dominion.

4.—The Canadian and Australian Governments will have their own naval stations as agreed upon from time to time. The limits of the stations are as described in Schedule A (Canada) and Schedule B (Australia).

5.—In the event of the Canadian or Australian Government desiring to send ships to a part of the British Empire outside their own respective stations they will notify the British Admiralty.

6.—In the event of the Canadian or Australian Government desiring to send ships to a foreign port they will obtain the concurrence of the Imperial Government in order that the necessary arrangements with the Foreign Office may be made, as in the case of ships of the British Fleet, in such time and manner as are usual between the British Admiralty and the Foreign Office.

7.—While the ships of the Dominions are at a foreign port a report of their proceedings will be forwarded by the officer in command to the Commander-in-Chief on the station, or to the British Admiralty.

8.—An officer in command of a Dominion ship, so long as he remains in a foreign port, will obey any instructions he may receive from the Government of the United Kingdom as to the conduct of any international matters that may arise, the Dominion Government being informed.

Dominions—continued.

commanding officer of a Dominion ship having to put into a foreign port without previous arrangement on account of stress of weather, damage, or any unforeseen emergency, will report his arrival and reason for calling to the Commander-in-Chief of the station or to the Admiralty, and will obey, so long as he remains in the foreign port, any instructions he may receive from the Government of the United Kingdom as to his relations with the authorities, the Dominion Government being informed.

9.—When a ship of the British Admiralty meets a ship of the Dominion the senior officer will have the right of command in matters of ceremony, of international intercourse, or where united action is agreed upon, but will have no power to direct the movement of ships of the other Service unless the ships are ordered to co-operate by mutual agreement.

10.—In foreign ports the senior officer will take command, but not so as to interfere with orders that the junior officer may have received from his own Government.

11.—When a Court-martial has to be ordered by a Dominion and a sufficient number of officers are not available in the Dominion Service at the time, the British Admiralty, if requested will make the necessary arrangements to enable a Court to be formed. Provision will be made by Order of His Majesty in Council and the Dominion Governments to define the conditions under which the officers of the different services are to sit on joint Courts-martial.

12.—The British Admiralty undertakes to lend to the Dominions during the period of the development of their services, under conditions to be agreed upon, such flag officer and other officers and men as may be needed. In their selection preference shall be given to officers and men coming from or connected with the Dominion, but they should all be volunteers to the Service.

13.—The service of officers of the British Fleet in the Dominion naval forces, or of officers of these forces in the British Fleet, will count in all respects for promotion, pay, retirement, &c., as service in their respective forces.

14.—In order to determine all questions of seniority that may arise, the names of all officers will be shown in the Navy List and their seniority determined by the date of their commission, whichever is the earlier in the British, Canadian, or Australian Services.

15.—It is desirable in the interest of efficiency and co-operation that arrangements should be made from time to time between the British Admiralty and the Dominions for ships of the Dominions to take part in fleet exercises, or for any other joint training considered necessary, under the senior naval officer. While so employed the ships will be under the command of that officer, who would not, however, interfere in the internal economy of the ships of another Service further than may be absolutely necessary.

16.—In time of war, when the naval Service of a Dominion or any part thereof has been put at the disposal of the Imperial Government by the Dominion authorities, the ships will form an integral part of the British Fleet and will remain under the control of the British Admiralty during the continuance of the war.

17.—The Dominions having applied to their naval forces the King's Regulations, Admiralty Instructions, and the Naval Discipline Act, the British Admiralty and the Dominion Governments will communicate to each

Dominions—continued.

other any changes which they propose to make in these Regulations or that Act.

SCHEDULE A (CANADA).

The Canadian Atlantic Station will include the waters north of 30deg. North latitude, and west of meridian 40deg. West longitude.



The Canadian Pacific Station will include the waters north of 30deg. North latitude, and east of meridian 180deg. longitude.

SCHEDULE B (AUSTRALIA).

The Australian Naval Station will include on the north from 95deg. East longitude by parallel 13deg. South latitude to 120deg. East longitude, thence north to 11deg. South latitude, thence to the boundary with Dutch New



Guinea on the south coast in about longitude 141deg. East, thence along the coast of British New Guinea to the boundary with German New Guinea in latitude 8deg. South, thence east to 155deg. East longitude.

Dominions—continued.

On the east by the meridian of 155deg. East longitude to 15deg. South latitude, thence to 28deg South latitude on the meridian of 170deg. longitude, thence south to 32deg. South latitude, thence west of the meridian of 160deg. East longitude, thence south.

On the south by the Antarctic Circle.

On the west by the meridian of 95deg. East longitude.

THE COMMONWEALTH FLEET.

The Blue-book published by authority in Melbourne (C. 940) which contains the report made by Admiral Sir Reginald Henderson, who has just returned to this country, on the Naval Forces of the Commonwealth includes, in addition to his covering letter, introductory remarks and general proposals, a series of appendices explaining in larger detail the requirements necessitated by the proposed Naval development. Of these appendices, that on Control and Administration, dealing as it does with the selection and appointment of a Naval Board, is the most important and will be given in full, after the *Précis* of the Admiral's covering letter and Introductory Remarks.

PRÉCIS OF COVERING LETTER AND INTRODUCTORY REMARKS.

In his covering letter to the Minister of State for Defence, Sir Reginald Henderson writes:

"In accordance with the request made to me by the Commonwealth Government, I have the honour to forward herewith for the consideration of that Government my recommendations in regard to the general administration, organization, distribution, etc. of the Naval Forces of the Commonwealth.

"In your letter of the 11th August, 1910, you stated on behalf of the Government, that the main points on which we wish to have the benefit of your experience are:—

(a) the best position for the Central Naval Base, and the works necessary to make it effective;

(b) the position for secondary bases for the service of a fleet, and what we should, in your opinion, do to make them of best service in any Naval operations.

We shall also be glad of your views as to the locations and character of the Training schools for preparing the *personnel* for our Naval Service, to include both officers and men and all branches of the Service; and on any other Naval matters upon which you may care to express an opinion.

"In subsequent conversation with you I learnt that, as far as practicable, all action necessary in the first stage of the development of the Commonwealth Fleet was being deferred until the receipt of my Recommendations, and that it was the desire of the Government that I should embody in my Report my views as regards all the measures to be taken, both forthwith and in the future, in the formation of the Fleet.

"I have not, therefore, restricted my Recommendations to any special point, but have tendered advice on all the steps which, in my opinion, should be taken."

The Admiral then proceeds to give a list of the harbours, which he visited in order to gain full knowledge of Australian conditions and re-

Dominions—continued.

sources and of the suitability of these harbours for Naval Bases. The list includes all the principal harbours in the Commonwealth and Tasmania. He then goes on to say that although he has confined his attention as regards the question of Naval Bases to the ports of the Commonwealth and its dependencies (that being the scope of his present service), yet it had been necessary for him when reviewing the whole Naval situation in the South Pacific, to give consideration to the positions of New Zealand, Fiji, and other portions of the Empire in the Pacific; and his proposals will admit of any future Naval developments in New Zealand and the Pacific Islands being readily fitted into one complete scheme.

Sir Reginald concludes:—"In establishing a fleet of her own and developing her own Naval resources, Australia is taking a large share in the inauguration of the Imperial movement, which must result in strengthening the Sea Power of the Empire. I wish, however, to emphasize especially the fact that, although the Government may propose and guide, and although the Naval Administration may organize and foster the Naval development of the Commonwealth, yet the ultimate success of this development rests, and must continue to rest, with the Australian people; upon their sincere and whole-hearted support and co-operation depends the efficiency of their fleet. Moreover, it will be to the *personnel* of that fleet that the people will entrust the guardianship of their homes."

Strength of the Commonwealth Fleet.

The Admiral recommends that the strength of the fleet should be fixed as follows:—

Armoured Cruisers	...	...	...	...	...	...	8
Protected	"	...	...	...	...	...	10
Destroyers	18
Submarines	12
Depôt-Ships for Flotillas	3
Fleet Repair Ship	1
<hr/>							
Total	52
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The fleet would, when fully manned, require a *personnel* of approximately 15,000 officers and men, divided as follows:—

Commissioned Officers—	Nos.
Executive and Engineer	461
Medical	54
Accountant	63
<hr/>	
Total	578
<hr/>	

Subordinate Officers—	
Executive	96
Accountant	11
Total	107

Dominions—continued.**Warrant Officers—**

Executive	...	...	...	...	...	...	201
Engineer	...	...	...	...	...	...	43
Accountant	...	...	...	...	...	...	6

Total 250

Petty Officers and Men—

Seamen	...	...	...	...	...	...	5,865
Stokers	...	...	...	...	...	...	5,290
Artisans	...	...	...	...	...	...	590
Miscellaneous (including both Officers and Men)	...	...	...	...	...	...	1,151

Total of all Ranks 13,382

Under Training and on passage 1,012

Grand Total 14,844

The Fleet to be divided into two Divisions as follows:—

EASTERN DIVISION.

Armoured Cruisers—3 in full commission, 1 with reduced crews.

Total, 4.

Protected Cruisers—3 in full commission, 2 with reduced crews.

Total, 5.

Destroyers—8 in full commission, 4 with reduced crews. Total, 12.

Submarines—3 in full commission. Total, 3.

Depôt-Ship for Destroyers—2 in full commission. Total, 2.

Fleet Repair Ships—2 in full commission. Total, 2.

Total ships in full commission 19

 " " with reduced crews 7

Total 26

WESTERN DIVISION.

Armoured Cruisers—3 in full commission, 1 with reduced crew.

Total, 4.

Protected Cruisers—3 in full commission, 2 with reduced crews.

Total, 5.

Destroyers—4 in full commission, 2 with reduced crews. Total, 6.

Submarines—9 in full commission. Total, 9.

Depôt-Ship for Destroyers—1 in full commission. Total, 1.

Fleet Repair Ship—1 in full commission. Total, 1.

Total ships in full commission 21

 " " with reduced crews 5

Total 26

Grand Total of both Divisions

Ships in full commission 40

 " " with reduced crews 12

Total 52

Divisions—continued.**Distribution of the Fleet.**

The Divisions to be divided into Squadrons and Flotillas, the peace distribution to be as follows:—(See Map on page 1059).

EASTERN DIVISION.

- First Main Squadron, 4 Armoured Cruisers (1 with reduced crew); principal base, Sydney; Sub-base, Thursday Island.
- First Cruiser Squadron, 5 Protected Cruisers (2 with reduced crews); principal base, Sydney; Sub-base, Thursday Island.
- First Destroyer Flotilla, 6 Destroyers (2 with reduced crews) and Depôt-Ship; principal base, Brisbane; Sub-bases, Thursday Island and Townsville.
- Second Destroyer Flotilla, 6 Destroyers (2 with reduced crews), and Depôt-Ship; principal base, Port Western; Sub-bases, River Tamar (*Beauty Point*), Hobart, and Port Lincoln.
- First Submarine Flotilla, 3 Submarines; principal base, Port Stephens; Sub-bases, Sydney and Brisbane.

WESTERN DIVISION.

- Second Main Squadron, 4 Armoured Cruisers (1 with reduced crew) and Fleet Repair Ship; principal base, Fremantle; Sub-bases, Port Darwin and Port Western.
- Second Cruiser Squadron, 5 Protected Cruisers (2 with reduced crews); principal base, Fremantle; Sub-bases, Port Darwin and Port Western.
- Third Destroyer Flotilla, 6 Destroyers (2 with reduced crews) and Depôt-Ship; principal base, Fremantle; Sub-bases, Albany, Cone Bay, and Port Darwin.
- Second Submarine Flotilla, 3 Submarines; principal base, Port Western; Sub-bases, River Tamar, Hobart and Port Lincoln.
- Third Submarine Flotilla, 3 Submarines; principal base, Fremantle; Sub-bases, River Tamar, Hobart, and Port Western.
- Fourth Submarine Flotilla, 3 Submarines; principal base, Fremantle; Sub-bases, Albany, Cone Bay and Port Darwin.

For purposes of recruiting, Australia should be divided into two Recruiting Areas, Eastern and Western, to man the Eastern and Western Divisions respectively:—

Eastern Area. Main recruiting centre, Sydney; Sub-centres, Brisbane, Newcastle. States included: Queensland, 0.57 of population in millions; New South Wales, 1.62. Total, 2.19.

Western Area. Main recruiting centre, Melbourne; Sub-centres, Adelaide, Hobart, Fremantle. States included: Tasmania, 0.18 of population in millions; Victoria, 1.30; South Australia, 0.41; Western Australia, 0.27; Total, 2.16.

Naval Depôts and Schools are to be established at:—
Sydney—Naval Depôt; Gunnery, Signal, Wireless Telegraphy, and Cookery Schools.

Port Western—Naval Depôt; Torpedo School.

The following list contains the names of the places affected by the above proposals, in geographical order, from Thursday Island to Port

Dominions—continued.

Darwin, via the South, showing for what purpose each will be required:—

Thursday Island	... Fleet Secondary base; Destroyer base.
Townsville	... Destroyer Sub-base.
Brisbane ..	... Destroyer base; Submarine Sub-base; Recruiting Sub-centre.
Port Stephens	... Submarine Base.
Newcastle ...	... Recruiting Sub-centre.
Sydney ...	Fleet Primary Base; Naval Dep't; Gunnery, Signal, Wireless Telegraphy and Cookery Schools; Main Recruiting Centre (Naval College and Boy's Training Ship will also be at Sydney).
Hobart ...	... Destroyer Sub-base; Submarine Sub-base.
Beauty Point (River Tamar) ...	... Destroyer Sub-base; Submarine Sub-base.
Melbourne (or its vicinity) ...	... Main Recruiting Centre.
Port Western	... Destroyer Base; Submarine Base, Naval Dep't; Torpedo School.
Adelaide ...	... Recruiting Sub-centre.
Port Lincoln	... Submarine Base; Destroyer Sub-base.
Fremantle ...	Fleet Primary Base; Destroyer Base; Submarine Base; Recruiting Centre.
Cone Bay (or other portion N.W. Coast)	... Destroyer Sub-base; Submarine Sub-base.
Port Darwin	... Fleet Secondary Base; Destroyer Sub-base; Submarine Sub-base.

Note.—See Appendix F (attached to Report) as to which of these places will be used also as Headquarters for training of Naval Reserves.

The Admiral states that though he had divided the proposed fleet into two Divisions (each of which should be under the command of an Admiral or Commodore), and has allocated certain Bases and Sub bases to the Squadrons and Flotillas of each Division, it is not intended that their sphere of employment should be restricted to the vicinity of the ports so named; in order to give all officers and men the opportunity of gaining acquaintance with the whole of the waters of Australia, ships of the two Divisions should be interchanged from time to time, and at least once a year the two Divisions should meet for fleet tactics and exercises. Excellent centres for such purpose in the summer time are Hobart and its vicinity, Jervis Bay, and Port Lincoln; in the winter time ships should work on the Northern coast.

The Admiral points out that Port Western is a very good harbour; and until Cockburn Sound (Fremantle), which is far more important from a strategical point of view, is ready, it should be utilised by the Western Division, as one of its principal anchorages, and as a place where ships should be able to replenish with coal or oil fuel. In his opinion the Second Destroyer Flotilla, which is based on Port Western, could easily be utilised in time of war for service with the main fleet or elsewhere, as might be required; and in peace time it should be exchanged at times with other Destroyer flotillas, which are employed under more trying conditions of climate, etc. With regard to fleet auxiliaries, the

Dominions—continued.

Admiral does not make any special proposals, as he considers that there are sufficient suitable merchant ships available in Australian waters to meet the needs in time of war, but the necessary preparatory arrangements should, however, be completed in peace time, so that prompt action can be taken in war. He further emphasises the urgent necessity for establishing railway communication between Port Darwin and Fremantle and the centres of population, manufactures and resources which are required for the maintenance of a fleet.

(*To be continued.*)

FOREIGN POWERS.

FRANCE.

The following are the principal appointments which have been made:—

Vice-Admirals—A. E. Boué de Lapeyrère to command First Squadron; J. Bellue to command of Second Squadron; M. J. Aubert to command of Third Squadron. Rear-Admirals—J. C. Gaschard to command of 1st and Division of Second Squadron; A. V. Adam to command of 2nd Division of Third Squadron; L. R. Dartige du Fournet to command 1st Cruiser Division; L. H. Dufaure de Lajarte to command of 2nd Cruiser Division; E. E. Nicol to command of a Cruiser Division. Capitaines de Vaisseau—L. M. A. Laporte to be Chief of the Staff to Vice-Admiral Boué de Lapeyrère; L. G. Drouet to *Vergniaud*; J. A. Allemand to *Tourville* and command of Gunnery School; A. F. Laugier to *Ernest-Renan*; E. F. Carré to *Condé*; J. A. Chéron to *Dupleix*; R. M. Morin de la Rivière to *Montcalm*; M. J. Bé to *Borda*.

Journal Officiel de la République Française.

NEW ORGANIZATION OF THE FLEET.—It has been known for some time it was the intention of the Minister of Marine to re-organize the battle squadrons of the fleet in view of the completion of five out of the six new first-class battleships of the *Danton* class and the approaching completion this Autumn of the sixth, the *Vergniaud*, the rate of construction of which ship has been somewhat slower than that of her five sisters. This re-organization has now been carried into effect, and the composition of the battle squadrons will be as follows:—

FIRST SQUADRON.

First-class battleships.—*Danton* (Flagship of the Vice-Admiral Commanding), *Condorcet*, *Diderot*; *Voltaire* (Flagship of Rear Admiral), *Mirabeau*, *Vergniaud*.

SECOND SQUADRON.

First-class battleships.—*Patrie* (Flagship of Vice-Admiral Commanding), *République*, *Démocratie*; *Justice* (Flagship of the Rear Admiral), *Liberté*, *Verté*.

THIRD SQUADRON.

First-class battleships.—*Saint-Louis* (Flagship of Vice-Admiral Commanding), *Gaulois*, *Charlemagne*; *Bouvet* (Flagship of Rear Admiral), *Carnot*, *Jauréguiberry*.

The "Light" or "Cruiser" Divisions, whose composition will vary according to the number of vessels in commission, will be known as the

France—continued.

"First," "Second," and "Third" Light Divisions, according as one, two, or three light divisions are formed. When there are three Light Divisions in commission, one will as a rule be attached to each of the battle squadrons. In view of the fact that the appointment of Rear-Admirals to command the "First" and "Second" Light Divisions and of a third Rear-Admiral to command a "Light Division" (as yet unnumbered) has been announced, it would appear that the "Light Divisions" will be attached to the battle squadrons as follows:—

The First Light Division, commanded by Rear-Admiral Dartige du Fournet, which up to the present has been attached to what under the new organization is now the "Second Battle Squadron," will be transferred to the newly re-constituted "First Battle Squadron." It is constituted as follows:—

First-class Armoured Cruisers.—*Léon-Gambetta* (Flagship of Rear-Admiral Commanding), *Ernest-Renan*, *Edgard-Quinet*.

Similarly, the "Second Light Division," commanded by Rear-Admiral Dufaure de Lajarte, which up to the present has been attached to what under the new organization is now the "Third Battle Squadron" will apparently be transferred to the new "Second Battle Squadron." It is composed as follows:—

First-class Armoured Cruisers.—*Gloire* (Flagship of Rear-Admiral Commanding); *Condé*, *Amiral-Aube*.

This rearrangement leaves the new "Third Battle Squadron" without a cruiser division, but in view of Rear-Admiral Nicol's appointment to command a cruiser division, it is believed that this division will form the "Third Light Division," and be attached to the "Third Battle Squadron." Rear-Admiral Nicol has been in command of the Reserve Division at Toulon, with his flag flying in the armoured cruiser *Victor Hugo*, and the new division will probably be composed as follows:—

First-class Armoured Cruisers.—*Victor-Hugo* (Flagship of Rear-Admiral Commanding), *Jules-Michelet*.

First-class Cruiser.—*Jurien de la Gravière*.

The groups of battleships, armoured cruisers, cruisers, and special-service ships, which, in accordance with a Ministerial Decree of the 19th December, 1910, were formed into a "Squadron" Reserve (*Réserve d'Escadre*), will be known as the "First," "Second," and "Third" groups of "Squadron Reserve." When any of them are placed in the position *en disponibilité armée*, they are to be named "First," "Second," or "Third" groups *de disponibilité*. These "Squadron Reserves" have been formed at Brest and Toulon.

The groups of Destroyers will, like the "Light Divisions" be known as, the "First," "Second," and "Third" Destroyer Groups, according as one, two, or three of the groups are placed in commission. They will be formed for tactical purposes into flotillas and be sub-divided into divisions of three destroyers each.

The flotillas, or groups of destroyers, like the "Light Divisions," will be attached to the "Battle Squadrons." The groups of ships in "Squadron Reserve" or *en disponibilité armée*, will also be attached to the Battle Squadrons, and in addition will be under the authority of the Maritime Prefects of the great ports.

France—continued.

A "Battle Squadron," "Light Division," "Destroyer Flotilla" or "Group," with the attached "Squadron Reserve" group or groups of ships *en disponibilité armée*, will form one single force, and be named the "First," "Second," or "Third" Squadrons, as the case may be.

Up to the present there have been two Destroyer flotillas in commission, each consisting of 12 vessels, which have been attached to what were until the new re-organization the "First" and "Second" Squadrons respectively. These flotillas were constituted as follows:—

FIRST FLOTILLA.

Destroyers.—*Carabinier, Lansquenet, Spahi, Gabion, Sabretache, Massue, Chasseur, Tirailleur, Voltigeur, Fantassin, Hache, Cavalier.*

SECOND FLOTILLA.

Destroyers.—*Obusier, Tromblon, Oriflamme, Branlebas, Pierrier, Poignard, Fanfare, Glaive, Mortier, Etendard, Carquois, Baliste.*

Presumably, like the "First" and "Second" Light Divisions, these two flotillas will now be attached to the new "First" and "Second" Battle Squadrons respectively, but nothing is as yet definitely published in regard to these changes, and it is reported that the complete re-organization contemplated will not be carried fully into effect until after the manœuvres.

In the ordinary course of service these three "Battle Squadrons" will be independent of each other, and each of the commanding admirals will have the title and enjoy the prerogative of Commander-in-Chief. But when two or more of the Squadrons are lying at the same anchorage, the commanding admirals are to conform to the Regulations of 15th May, 1910, relative to the exercise of the supreme command.

Where a "Light Division" is not attached to each of the "Battle Squadrons," and the senior admiral in command of these squadrons has at his disposal only one "Light Division," it is open to him to temporarily place the Division under the orders of the Commander-in-Chief of the other squadrons, with the view of facilitating the instruction and tactical exercises of their squadrons.

Vice-Admiral Boué de Lapeyrère, who resigned his position as Minister of Marine on the fall of the Briand Ministry in April last, has been selected by M. Delcassé, the new Minister, for the command of the First Squadron. He hoisted his flag on board the *Danton* on the 5th inst. at Brest, and, with the *Condorcet* and *Diderot*, was to leave for Toulon on the 10th inst., on arrival at which port he will be joined by the *Mirabeau* and *Voltaire*. No Second in Command has as yet been appointed to the new squadron, and it is believed that no appointment will be made until after the manœuvres in September, by which time it is hoped the *Vergniaud* will have completed her trials and joined the squadron, bringing it up to its full strength. As already reported, the *Danton* was commissioned on the 1st June, while the *Condorcet*, *Diderot*, and *Mirabeau* were commissioned on the 1st July at Brest, and the *Voltaire* at Toulon.

The new "Second Squadron," which until the reorganization came into force was the "First," is commanded by Vice-Admiral Bellue, who has his flag flying on board the *Patrie*, with Rear-Admiral Gaschard, as his Second in Command, flying his flag in the *Justice*; the other

France—continued.

battleships at present forming the squadron being the *Vérité*, *Démocratie*, *Liberté*, and *Suffren*; the last-named ship is not one of the *Patrie* class, but as relief ship in the Reserve has temporarily changed places with the *République*.

The new "Third Squadron," which up to the present, has been the "Second Squadron," is commanded by Vice-Admiral Aubert, who flies his flag on board the *Saint Louis*, Rear-Admiral Adam being his Second in Command with his flag in the *Bouvet*. The other battleships of the squadron are the *Charlemagne*, *Gaulois* (both sister-ships of the *St. Louis*), *Charles Martel* and *Jauréguiberry*.

The "First" and "Second" Squadrons are to be stationed in the Mediterranean, with their bases at Toulon and Biserta respectively. They will be kept fully commissioned, as will also the "Light" Divisions and "Destroyer" flotillas attached to them. The "Third" Squadron will have its headquarters at Brest, and will be primarily a reserve fleet, as the battleships and ships of the attached "Light" Division will only have two-thirds crews for ten months in the year, being fully manned for two months during the manœuvre season. Like the Third Division of the British Home Fleet, the squadron will make frequent cruises with its nucleus crew complements. On the other hand, it is reported that the Destroyer Flotilla to be attached to the squadron is to be kept fully commissioned. With the exception of the local flotillas at Dunkirk, Calais, Cherbourg and Brest, the Third Squadron will be the only French Naval force in the waters of Northern Europe. It is not yet reported how the ships in the "Reserve Squadrons" at Toulon and Brest will be apportioned under the new scheme, and there may be further changes before the new organization is brought into final working order after the manœuvres.

By concentrating the "First" and "Second" Squadrons in the Mediterranean, both composed of powerful first-class ships, the Ministry of Marine hope to be in a position to maintain a position of undoubted superiority, at least for some time to come over the combined fleets of the Triple Alliance in those waters.

Le Yacht and La Vie Maritime.

THE GRAND NAVAL MANŒUVRES.—Vice-Admiral Jauréguiberry, Inspector-General of the Home Fleet, has been appointed Director of the Naval Manœuvres, which are to be held in the Mediterranean between the 4th and 16th of September. He will hoist his flag on board the first-class armoured cruiser *Jules-Ferry*, the relief ship of the First Light Division, on the 2nd September at Toulon, and has selected Capitaine de Vaisseau Salatün as his Chief of the Staff.

The following ships will take part in the manœuvres:—

1. The First Squadron with 5 ships of the *Danton* class;
The Second Squadron with 6 ships of the *Patrie* class;
The Third Squadron with 6 ships and the *Suffren*, making a total of 18 battleships.
2. Armoured Cruisers, 9, viz., the *Léon-Gambetta*, *Edgard-Quinet*, *Ernest-Renan*, *Waldeck-Rousseau*, *Jules-Ferry*, *Jules-Michelet*, *Gloire*, *Amiral-Aube*, *Marseillaise*.
3. Two mine-layers, *Foudre* and *Casabianca*, with 28 destroyers, divided into four groups.

France—continued.

In addition, for part and perhaps the whole of the period of the manœuvres, the torpedo-boats and submarines of the Toulon harbour defence force, as well as the torpedo-flotilla at Ajaccio will also take part in them.

As was done last year, some officers of the Army General Staff and the officers of the Superior Naval War School will attend the manœuvres, as far as the available accommodation will permit. The manœuvres will be in the main, tactical, and in addition experiments on a large scale with the new signal code will be carried out. There will be no strategic manœuvres on a grand scale, such as were carried out last year.

Interest will be centred round the new First Squadron under Vice-Admiral Boué de Lapeyrère, and as all the ships are fitted with turbines and the squadron in every way perfectly homogeneous, the trials which are to be carried out with this squadron may result in the adoption of new tactical dispositions. Great satisfaction is expressed that these ships have been completed several months ahead of the contract time, thus enabling them to take part in this year's manœuvres.

A Grand Review of the fleet will be held on the 4th September in the vicinity of Toulon, before the manœuvres commence, at which it is expected that the President of the Republic will be present.

Le Yacht.

M. Delcassé has laid before the Naval Committee of the Chamber his shipbuilding programme. He intends to ask the consent of Parliament to lay down 2 battleships (improved Dreadnoughts) at a time on the following dates: May, 1912, May, 1913, January, 1910, January, 1915, September, 1915, and January, 1917. The cost of this programme will be about £45,000,000 divided among the budgets of from 1912 to 1919 inclusive.

GERMANY.

HIGH SEA FLEET AND THE KIEL CANAL.—The Second or Baltic Squadron passed through the Kiel Canal to the North Sea in the middle of July, one cruiser alone having to go round by the north of Denmark, thus shewing that even before the completion of the extension works, the Canal is ready for war.

The combined High Sea Fleet has since been cruising in Norwegian waters.

MARINE ARTILLERY.—The 1st and 2nd Marine Artillery Abteilungen at Friedrichsort and Wilhelmshaven are to be each increased by one Company. It may be noted that Borkum is the only coast defence garrison furnished by the Foot Artillery.

HELGOLAND.—According to the press, Heligoland from August 1st is to become an independent fortress. Hitherto it has been under the command of an officer acting under instructions from Cuxhaven.

EMDEN.—It is stated that the new harbour of Emden is to be finished in 1912. The total cost will amount to £1,075,000.

HOLLAND.

HARBOUR IMPROVEMENTS.—An extension of the harbour of Zaandam near Amsterdam was opened on 15th July. The extension consists of 20 acres of harbour proper where the depth of water is 34 feet, and 125 acres of timber harbour with a depth of 6½ feet.

RUSSIA.

PROGRESS IN SHIPBUILDING.—Two battleships have recently been launched on the Neva, the *Sevastopol* on 29th June, and the *Poltava* on 10th July. The two remaining battleships of the 1909 programme will be launched in August and October respectively. All these vessels are of 23,000 tons displacement, and 42,000 h.p., length 590 feet, draught 27½ feet, speed 24 knots. The armament is twelve 12-inch guns, fourteen 4·7-inch guns and 4 submerged torpedo tubes.

An ocean-going destroyer, the *Novik*, was launched on 4th July. This vessel is of 1260 tons displacement, and speed 36 knots. Her armament is four 4-inch guns.

A new vessel for the Volunteer Fleet, the *Kursk*, built at Wallsend, has undergone successful trials.

The Minister of Commerce and Industry has put forward proposals for floating docks at St. Petersburg, Odessa and Kertch, for enlarging the existing dock at Riga, and for chain-testing stations at Archangel, Riga, Odessa, Kertch, Baku and Vladivostok. The credits demanded amount to £200,000.

Five mine layers on order for the War Department are approaching completion at the Ijor works. These vessels are of shallow draught, and 150 tons displacement.

THE NAVY BILL.—The preamble of the new Navy Bill, dated 2nd April, 1911, states that the command of the Baltic Sea must be regained by Russia. The Admiralty proposes to create three fleets, in the Baltic, the Black Sea, and the Pacific respectively. The Baltic Fleet will consist of two squadrons comprising together, 16 battleships, 8 armoured cruisers, 16 cruisers, 36 destroyers, 12 submarines, and the usual auxiliaries. A reserve squadron will be formed in course of time from ships whose period of service in the active fleet has expired. Two new naval bases will be constructed. The first of these is to be ready for the first squadron by 1918. It is expected that the second squadron will be ready by 1924. The Black Sea Fleet is to be half as strong again as any possible combination of fleets in those waters. Sevastopol and Nikolaev will be the bases for this fleet. The Pacific Fleet will consist of 2 cruisers, 18 destroyers, 12 submarines, 3 mine sweepers, and auxiliaries based on Vladivostok. It is hoped that the whole programme will be completed by 1930.



Vice-Admiral Ebergard, Chief of the Naval General Staff has proceeded to the Far East to inspect the port establishments at Vladivostok, and the War Department flotilla on the Amur River.



MILITARY NOTES¹.

BRITISH EMPIRE.

THE KING.

The King has been graciously pleased to approve the following appointments to fill prospective vacancies:—

General Sir J. D. P. French, G.C.B., G.C.V.O., K.C.M.G., Aide-de-Camp General, to be Chief of the Imperial General Staff.

General Sir C. W. H. Douglas, G.C.B., to be Inspector General of the Home Forces.

Lieutenant-General Sir A. H. Paget, K.C.B., K.C.V.O., Aide-de-Camp General, to be General Officer Commanding-in-Chief the Forces in Ireland.

Lieutenant-General Sir J. M. Grierson, K.C.B., C.V.O., C.M.G., to be General Officer Commanding-in-Chief, Eastern Command.

Lieutenant-General W. E. Franklyn, C.B., to be Military Secretary to the Secretary of State for War, and Secretary of the Selection Board.

Lieutenant-General Sir D. Haig, K.C.V.O., C.B., to be General Officer Commanding-in-Chief, Aldershot Command.

HOME.

REVIEW OF THE OFFICERS' TRAINING CORPS.—On Monday, July 3rd, the King reviewed between sixteen and seventeen thousand members of the Officers' Training Corps in Windsor Great Park. The weather was brilliant, and the Officers' Training Corps, drawn up ready to receive His Majesty, presented a fine spectacle.

The troops occupied three sides of a square, the saluting base, parallel to Queen Anne's Ride, forming the fourth side. Along the saluting Base were ranged the enclosures for spectators.

On the North side of the ground were the mounted troops, squadrons from Oxford and Cambridge, and batteries of 18-pounders from Oxford, Cambridge, London and Edinburgh Universities; next to the mounted troops stood the 1st Brigade, consisting of Infantry, Engineer, and Medical and Veterinary Units from the twenty-one Universities and Colleges who provide contingents of the Senior Division.

On the East and South Side of the review ground were the four brigades of the Junior Division, contingents from 145 public schools.

The whole were under the command of Major-General A. T. Murray, the Director of Military Training, under whose direction the Officers' Training Corps is arranged and administered.

Precisely at 3 p.m. the King arrived at the review ground; with him rode the Duke of Connaught, Prince Christian and Prince Alexander of Teck, and he was attended by a numerous staff. The Queen's procession followed immediately behind that of the King.

After the Royal Salute had been given, the King, now escorted by a Sovereign's escort, of the 2nd Life Guards, made a minute inspection of the troops.

During the latter part of the inspection, the Senior Division was moved into its place of readiness on the passing line, and, as soon as

Includes notes regarding important political events in foreign countries.

Home—continued.

their Majesties reached the Saluting Point, General Murray gave the order for the March Past to begin. This was carried out with great precision, and the task, always difficult, of moving such large numbers quickly into the passing line, was accomplished without a hitch.

The battalion of the Junior Division marched straight off the review ground after the March Past; and as soon as they had finished, the Senior Division, which in the meantime had drawn up opposite the saluting point, advanced in Review Order—Infantry in the centre, Cavalry and Artillery on either flank.

Their Majesties then returned by the Long Walk to Windsor Castle.

* * *

After the Review, his Majesty the King was pleased to order the following message to be conveyed to the Secretary of State for War:—

Windsor Castle, July 3rd, 1911

Dear Lord Haldane,

I am commanded to inform you that it was a great pleasure to the King to see the Senior and Junior Divisions of the Officers' Training Corps so well represented at the Inspection to-day.

His Majesty was struck with the physical fitness and steadiness on parade of all ranks, and considered the March Past most creditable.

I am to assure you that the development of this patriotic effort on the part of the Universities, the Public Schools, and other seats of learning to take their share of the responsibilities of National Service, and to do their best to train our future leaders will be followed with much interest by his Majesty.

The King thought that the arrangements for the Review and the Camp reflect great credit on General Murray and his Staff.

His Majesty only regrets that you were unable to be present.

Believe me,

Yours very truly,

Sgd., CLIVE WIGRAM.

As may be imagined, the task of bringing together so many contingents from all parts of Great Britain and Ireland, was no light one; many thousands had to be accommodated in camp, and highly detailed railway and assembly arrangements were necessary; it says much for the training and discipline of the Officers' Training Corps, that everything worked out smoothly as arranged. In fact, this Review may be looked upon as a public demonstration of the very remarkable success which has attended the "O. T. C." movement.

Inaugurated only three years ago, the "O. T. C." now numbers 646 officers and 24,661 cadets; the Senior Division includes contingents from 21 Universities and Colleges, the Junior Division is furnished by 159 public schools.

Practically the whole of those bodies to whom the appeal of 1908 was made have responded; the training is admittedly on a much higher level than anything which obtained formerly.

Commanding Officers in the Regular Army should now find in the "O. T. C." an inexhaustible supply of young officers for the Supplementary List of the Special Reserve; it is a supply, however, which will not be available without effort.

Home—continued.

Boy Scouts.—On the 4th July, the King witnessed a "Rally." of some 30,000 Boy Scouts in Windsor Great Park. At the conclusion of the "Rally" His Majesty caused the following letter to be addressed to Lieutenant-General Sir Robert Baden-Powell, K.C.B.

Windsor Castle, 4th July, 1911

Dear Sir Robert,

I am commanded to inform you that the King was very much pleased to see so many detachments of Boy Scouts from all parts of the United Kingdom, including some from the Overseas Dominions, at the Rally to-day. His Majesty welcomes this opportunity of showing his appreciation of the great voluntary work which is being carried out by men and women of all classes, who are striving to further the advance of sound training and education among the rising generation of the Empire.

The healthy appearance, as well as the smartness and keenness of the boys surprised his Majesty.

I am further heartily to congratulate you and your workers on the widespread interest the Boy Scout movement has aroused, and on the remarkable results already achieved. The King feels sure that the boys of the Empire will show their gratitude for the encouragement so generously given by the various organizations at home and abroad and will endeavour to become God-fearing and useful citizens.

Believe me,

Yours Sincerely,

Sgd., CLIVE WIGRAM.

* *

REVIEW AT DUBLIN.—On the 11th July, the King reviewed in Phoenix Park, Dublin, some 12,000 troops of the Regular Army and Special Reserve, and a contingent of about 4,000 of the Royal Navy. After the Review the King presented colours to the 1st Battalion Liverpool Regiment, the 2nd Battalion King's Own Scottish Borderers, the 2nd Battalion South Lancashire Regiment, the 2nd Battalion Manchester Regiment, and the 2nd Battalion Connaught Rangers.

* *

REVIEW AT EDINBURGH.—On the 20th July, the King held a review of the troops at Edinburgh, and presented colours to the 2nd Battalion the Royal Scots. His Majesty also inspected some 4,000 Veterans, and some 6,500 boys of the "Boy Scouts" and "Boys' Brigade."

During his visit to Edinburgh (18th July) His Majesty also presented colours to the Royal Company of Archers, the King's Bodyguard in Scotland, and received in return from the Captain-General of the Corps the traditional offering of three silver arrows.

* *

THE ANGLO-JAPANESE ALLIANCE.—See under Japan.

DOMINIONS AND PROTECTORATES.

Australian Commonwealth.

REGISTRATION OF CADETS.—Compulsory military service for cadets was inaugurated on the 1st July in pursuance of the Defence Act of 1911.

Dominions—continued.

The following are the details of the registration of cadets in the Commonwealth up to the end of March, 1911.

Total Registrations, 152,333;
 Total Medically examined, 82,992;
 Total Medically fit, 77,304 (93.8 per cent. of those examined);
 Total Medically and temporarily unfit, 5,118 (6.2 per cent. of those examined);
 Total exemptions, 27,898.

Egypt and the Sudan.

LORD KITCHENER'S APPOINTMENT.—The King has been pleased to approve the appointment of Field Marshal Viscount Kitchener of Khartoum, K.P., G.C.B., O.M., G.C.S.I., G.C.M.G., G.C.I.E., to be His Majesty's Agent and Consul-General at Cairo in succession to the late Sir Eldon Gorst.

SUDAN BUDGET.—The Sudan Budget Account for 1910 shows total receipts of £.E.1,496,007 which is inclusive of a contribution of £.E.325,000 by the Egyptian Government. The expenditure for the year amounted to £.E.1,341,676 which includes £127,000 paid to the Egyptian Government for maintenance of the army in the Sudan. The surplus of £.E.154,331 was passed to the Reserve Fund.

INDIA.

THE KING'S VISIT TO INDIA.—It was officially stated in Parliament (26th July) that the arrangements for the King's visit to India in December will be as follows:—

On December 7th their Majesties will arrive at the Bastion of Delhi Fort, where 150 Ruling Chiefs will be presented.

Subsequently they will go in procession with British and Indian escorts round the Great Mosque and through all the principal streets of the town. On the Ridge they will be received by representatives of British India, between 3,000 and 4,000 in number.

On the two following days the King will receive visits from the Chiefs, and will lay the foundation stone of the All-India Memorial to King Edward in Delhi.

On December 11th colours will be presented to British and Indian troops.

The Durbar ceremony itself will take place on December 12th. In order to make it as popular as possible accommodation will be provided for 50,000 spectators in addition to the 12,000 officially invited guests and the 20,000 troops in the great arena; so that there will be space for about 100,000 persons to see the ceremony.

On the following day in the morning, the King will receive the officers of the Native Army, and in the afternoon their Majesties will attend a garden party at the Fort, while a huge popular fête will be held on the ground below the Fort, to which it is expected that about a million people will come to spend the day in the games and amusements that will be provided for them. It is anticipated that, following the custom of the Mogul Emperors, their Majesties will show themselves to the people from the bastion of the Fort.

India—continued.

On the 14th there will be a review of unprecedented size, in which British and Indian troops, numbering over 90,000 will be present This will have been preceded by four days' manoeuvres on a scale never before found possible. (1)

On the next day, the 15th, their Majesties will depart in procession through the streets of Delhi.

It is announced that the Coronation Durbar Committee have made the following arrangements for visitors at Delhi during the ceremonies. Four camps will be established, partly in two buildings specially adapted for the purpose and partly in well equipped tents.

The terms which will be charged will be £2 2s., £4 10s., £6, and £8 per diem per person, according to the accommodation provided. Visitors paying £6 and £8 per day will be accommodated in buildings, and the remainder in tents. As regards the accommodation at £2 2s., preference will be given to applicants resident in India, and it is not expected that any space will be available for applicants from elsewhere.

These terms will include board, lodging, lights, fires, and water, but will not include conveyances, wines, or similar extras. Children will be charged as adults.

European servants (who will be accommodated in tents) will be charged at the rate of £1 6s. 8d. to £2 per diem. Accommodation, for which no charge will be made, will be provided for Indian servants, not exceeding two per visitor.

The furnishing and equipping of the camps have been entrusted to the Army and Navy Co-operative Society, and the catering will be carried out by well-known caterers.

The minimum period for which accommodation will be let is twenty days, and full rent will be charged in each case for this period.

The camps will be opened on the 29th November, but visitors for whom accommodation has been reserved can make use of the camps without charge from the 22nd idem. Arrangements for catering for the period between the 22nd and 29th November can be made by visitors with the caterers in charge of the camps. Visitors are advised to arrive at the earliest date possible, since they will thus avoid the inevitable rush of traffic immediately preceding the Durbar.

The camps will be situated in the vicinity of stations on the railways which have been constructed specially to connect the different centres of interest in the main Durbar camps, but visitors are advised to bring their own motors or conveyances. Arrangements will be made to provide carriages on hire for those visitors who do not bring them; but the prices will necessarily be high.

Each camp will be in charge of a Special Camp Officer, who will make arrangements for visitors at the various public State functions; seats will be reserved at such functions for visitors in the camps. The services of a special medical officer will also be available.

Intending visitors resident in India should forward their applications

(1) The troops taking part in the manoeuvres will consist of 6 Cavalry brigades with Cavalry Divisional troops, and of 5 divisions of Infantry with their divisional troops.

India—continued.

direct to the Secretary, Coronation Durbar Committee. Those resident out of India should forward them to Lieutenant-Colonel Sir Donald Robertson, K.C.S.I., India Office, London. Full information, with plans showing situation of the camps and details of accommodation, will shortly be forwarded to the principal agents in England.

Intending visitors should state in each case the nature of the accommodation desired. They will be required to pay before the 15th September, 1911, a registration fee of one-third of the charge due for the full period of 20 days, and applications in respect of which this has not been done will be considered as cancelled. Applicants who pay the fee but are unable to avail themselves of the accommodation will not be entitled to a return of the sum paid unless the Committee are able to reallot the accommodation reserved for them.

FOREIGN POWERS.

CHINA.

Political.

FOREIGN GARRISONS IN NORTH CHINA.—The Peking correspondent of the *Times* telegraphs that the Foreign Ministers have again been sounded as to their willingness to agree to the withdrawal of the foreign legation guards from Peking and of the foreign troops from N. China.

RUSSIA AND CHINA.—A Chinese Mission, under the Chinese Minister at the Hague, Luts-Zen-Tsyan, has arrived at St. Petersburg to discuss the revision of the Russo-Chinese Agreement of 1881.

Military.

MANCEUVRES.—Grand manœuvres will take place this year from 17th to 20th October in the Lan Chou-Kai-ping district to the N.E. of Peking. The troops taking part will consist of the 1st and 4th Divisions, and half of the Guard and 2nd Divisions.

ORGANIZATION.—A new regular division, the 24th, is in process of formation in Shan-tung province.

FRANCE.

THE SUPREME COMMAND OF THE ARMY.—Two decrees modifying in important particulars the "Conseil Supérieur de Guerre" and the "Conseil Supérieur de la Défense Nationale" were issued at the end of July.

These two decrees are M. Messimy's solution of the question of the "Generalissime" which has been agitating the French political and military worlds since last June.

The most important points in these decrees are:—

(1) The Vice-President of the *Conseil Supérieur*¹ is abolished. In future one of the members of the Council will be selected to command the principal group of armies in case of war. The officer thus selected has the title of "Chief of the General Staff" and is responsible for the preparation of the Army for war. The General Staff at the War Office is for this purpose placed under his supervision, but its immediate head

¹ Under the old system the Vice-president of the *Conseil Supérieur*, which is charged with preparation for war, was the commander designate of the principal group of armies in case of war.

France—continued.

will now be styled the "Chief of the Staff of the Army." The latter will be under the Chief of the General Staff as regards questions connected with the education of the Army and its preparation for war, but he will have direct access to the War Minister with regard to questions concerning the routine of his department. On mobilization he will not join the field armies but will assist the War Minister.

(2) The General Staff at the War Office will now be divided into 3 groups, and the head of the 1st Group (which includes the bureau of military operations, intelligence, and railways) will become, on mobilization, the Chief of the Staff (major-général) to the principal group of armies.

(3) The "Conseil Supérieur" will now consist of : the "Chief of the General Staff," the "Chief of the Staff of the Army," and ten generals. The commanders of the armies to be formed on mobilization will be chosen from among the latter, who, in order that they may prepare both themselves and the army corps which will form part of their armies, will, in peace time, have a general, or colonel, as chief of their staff, besides one field officer and one captain as staff officers.

(4) The "Committee of National Defence" has been improved by the addition of a permanent secretariat (Section d'Etudes) composed of :—

The Head of the Bureau of Military Operations, General Staff.

The Head of the 3rd Section of the Naval General Staff.

The Head of the 2nd Section of the Technical Bureau in the Military Directorate, Colonial Office.

General Joffre has been chosen as Chief of the General Staff. General Dubail becomes Chief of the Staff of the Army, while the post of "Sous-Chef" of the 1st Group of the General Staff has been given to General de Curières de Castelnau.

APPOINTMENT.—General Davignon, having reached the age of 65, has retired from the command of the 1st Army Corps, and has been replaced by General Crémier, who was formerly at the head of the 2nd Cavalry Division.

BUDGET FOR 1911.—The Legislature finally passed the 1911 Budget, which, according to law, should have been voted last December. An important addition was made to the vote for Engineer Material in the Army Budget. (See Aeronautical Notes.)

HAITI.

REVOLUTION.—A revolution is now in progress in Haiti, in the West Indies. The revolution is believed to be in the nature of a trial of strength between the North and South.

The United States Government has despatched several warships to Haitian waters.

On July 25th it was officially announced that a German cruiser *Bremen* had been ordered from Montreal to Port au Prince for the protection of German interests in Haiti.

It is further said that financial and political assistance is to be given by a syndicate of German bankers to General Cincinnatus Leconte, who has proclaimed himself President.

ITALY.

MANOEUVRES IN 1911. The *Temps* announces that the Grand Manoeuvres of the Italian Army will take place at the end of August about Montserrat in Piemont. General Pollio, Chief of the General Staff of the Army, will act as Director. Some 80,000 troops will take part, and will be organized in 4 army corps, and 2 divisions of cavalry, one of which will be commanded by the Count of Turin. The two forces will consist of the Alessandria and Turin Army Corps. The "general ideas," as well as the exact composition and distribution of the opposing armies, will only be communicated to the two forces immediately before the manoeuvres begin.

The theatre of operations will be the country between Alessandria, Tortona, Vagueria, Pavia, Vercelli, and Casale. Headquarters will be at San-Salvator-de-Montserrat. The King will be at the Chateau delle Valle, near Valenza. Lieutenant-General Panza will act as chief umpire.

The invading army will be allotted 8 aeroplanes, piloted by officers, and carrying observing officers trained at the special courses which have recently been inaugurated at Aviano, and at Campalto in Venetia.

The defending army will be allowed 2 dirigible balloons; one balloon shed has been erected at Casale; the transportable shed recently built at Terni will also be employed.

JAPAN.

Political.

The Anglo-Japanese Alliance.

A new Treaty, prolonging the existing Alliance between Great Britain and Japan until July, 1921, was signed in London on the 13th of July.

The most important differences between the new Treaty and the Agreements of 1903 and 1905 are: the introduction of the clause (Article IV.) providing that neither party shall be compelled to go to war with any Power with whom it has a treaty of general arbitration; and the elimination—as no longer necessary—of the articles in the old Treaty which recognized the special rights of Japan and Great Britain in Corea and on the Indian Frontier respectively. A clause in the Treaty of 1905 relating to the war then in progress between Russia and Japan has also been omitted, having no longer any significance. No change has been made in the purpose of the agreement, as set forth in the preamble.

The text of the new Treaty is as follows:—

PREAMBLE.—The Government of Great Britain and the Government of Japan, having in view the important changes which have taken place in the situation since the conclusion of the Anglo-Japanese Agreement of the 12th August, 1905, and believing that a revision of that Agreement responding to such changes would contribute to general stability and repose, have agreed upon the following stipulations to replace the Agreement above mentioned, such stipulations having the same object as the said Agreement, namely:—

(a) The consolidation and maintenance of the general peace in the regions of Eastern Asia and of India;

(b) The preservation of the common interests of all Powers in China by insuring the independence and integrity of the Chinese Empire and the principle of equal opportunities for the commerce and industry of all nations in China;

Japan—continued.

(c) The maintenance of the territorial rights of the High Contracting Parties in the regions of Eastern Asia and of India, and the defence of their special interests in the said regions.

ARTICLE I.—It is agreed that whenever, in the opinion of either Great Britain or Japan, any of the rights and interests referred to in the preamble of this Agreement are in jeopardy, the two Governments will communicate with one another fully and frankly, and will consider in common the measures which should be taken to safeguard those menaced rights or interests.

ARTICLE II. If by reason of unprovoked attack or aggressive action, wherever arising, on the part of any Power or Powers, either High Contracting Party should be involved in war in defence of its territorial rights or special interests mentioned in the preamble of this Agreement, the other High Contracting Party will at once come to the assistance of its ally, and will conduct the war in common, and make peace in mutual agreement with it.

ARTICLE III. The High Contracting Parties agree that neither of them will, without consulting the other, enter into separate arrangements with another Power to the prejudice of the objects described in the preamble of this Agreement.

ARTICLE IV. Should either High Contracting Party conclude a treaty of general arbitration with a third Power, it is agreed that nothing in this Agreement shall entail upon such Contracting Party an obligation to go to war with the Power with whom such treaty of arbitration is in force.

ARTICLE V. The conditions under which armed assistance shall be afforded by either Power to the other in the circumstances mentioned in the present Agreement, and the means by which such assistance is to be made available, will be arranged by the Naval and Military authorities of the High Contracting Parties, who will from time to time consult one another fully and freely upon all questions of mutual interest.

ARTICLE VI. The present Agreement shall come into effect immediately after the date of its signature, and remain in force for ten years from that date.

In case neither of the High Contracting Parties should have notified twelve months before the expiration of the said ten years the intention of terminating it, it shall remain binding until the expiration of one year from the day on which either of the High Contracting Parties shall have denounced it. But if, when the date fixed for its expiration arrives, either ally is actually engaged in war, the alliance shall, *ipso facto*, continue until peace is concluded.

Military.

CAVALRY REGULATIONS.—The final draft of the regulations for the cavalry, prepared by a special committee which has been sitting for four years, has been rejected by the Military Council. The provisional issue of 1907, therefore remains in force.

The "Jiji Shimpo" of 2nd May, 1911, states that this action of the Military Council was due to a difference of opinion as to whether bayonets should or should not be fixed to the cavalry carbine; and that a further investigation of this question had been ordered.

NEW ARMY DIVISIONS.—Tokio journals state that the Government has

Japan—continued.

informally decided to substitute two complete Army Divisions in Korea for the present detachments (equivalent to $1\frac{1}{2}$ divisions) from different divisions in Japan. This will raise the number of divisions of the Japanese army from 19 to 21.

MAROCCO.**(a) POLITICAL.****The Moroccan Negotiations.**

AGADIR.—As briefly mentioned in the July JOURNAL (page 947), the German Foreign Office announced, during the first week of July, the despatch of the gunboat *Panther* to Agadir, on the Atlantic coast of Morocco, and the replacement of that vessel by the *Berlin*, a ship of the scout type, launched in 1903, carrying a crew of 13 officers and 273 men. The *Berlin* actually left Kiel on the 29th June.

At the same time the German Government addressed an identic note to the signatory Powers of the Algeciras Convention, stating that German firms engaged in the south of Morocco, and particularly in Agadir and the neighbourhood, were disturbed in respect of a certain ferment among the local tribes which seemed to have been evoked by the recent events in other parts of the country. The firms in question had applied to the Imperial Government with the request for protection of life and property. On their request the Government had decided to send a warship to the harbour of Agadir in order, if necessary, to afford aid and protection to the German subjects and *protégés*, as well as to the considerable German interests in those districts. The ship entrusted with this task was to leave the harbour of Agadir as soon as peace and order were restored in Morocco.

After an interchange of views between the British, French, and Russian Governments⁽¹⁾ direct negotiations were commenced between France and Germany. It is generally understood—though not officially stated—that the question of a rectification of the Cameroons-French Congo boundary in favour of Germany was discussed; about the 20th July it was stated in the French press that the German proposals included the cession by France of the coast and interior of the French Congo up to the Sanga River, and also the reversion of the contingent rights of pre-emption which France holds over the Belgian Congo. Public opinion in France showed itself opposed to so large a cession of territory: it was also alleged that the cession of the German colony of Togoland to France, and of the French island of Tahiti to Germany, as parts of a larger scheme of exchange, had been mentioned during the discussion.

On the 4th August it was semi-officially announced in the Berlin press that a rapprochement on matters of principle had been established, but that its elaboration in detail would require thorough examination.

Two official statements were made in the British Parliament by the Prime Minister, during July.

(1) *Questions diplomatiques et Coloniales*, July 16, page 110.

Marocco—continued.

On the first occasion (6th July) shortly after the despatch of the German war vessels to Agadir, Mr. Asquith said :—

"Recent events are causing discussion between the Powers most interested in Marocco, and at this stage I can say little of the negotiations which are passing between them. But I wish it clearly to be understood that his Majesty's Government consider that a new situation has arisen in Marocco, in which it is possible that future developments may affect British interests more directly than has hitherto been the case. I am confident that diplomatic discussion will find a solution, and in the part that we shall take in it we shall have due regard to the protection of those interests, and to the fulfilment of our treaty obligations to France, which are well known to the House."

On the second occasion (27th July) the Prime Minister described the situation in the following terms :—

"Conversations are proceeding between France and Germany; we are not a party to those conversations; the subject-matter of them may not affect British interests. On that point, until we know the ultimate result, we cannot express a final opinion. But it is our desire that those conversations should issue in a settlement honourable and satisfactory to both the parties, and of which his Majesty's Government can cordially say that it in no way prejudices British interests. . . . The question of Marocco itself bristles with difficulties, but outside Marocco in other parts of West Africa we should not think of attempting to interfere with territorial arrangements considered reasonable by those who are more directly interested. Any statements that we have so interfered to prejudice negotiations between France and Germany are mischievous inventions without the faintest foundation in fact. But we have thought it right from the beginning to make it quite clear, that, failing a settlement such as I have indicated, we must become an active party in a discussion of the situation. That would be our right as a Signatory to the Treaty of Algeciras; it might be our obligation under the terms of our Agreement of 1904 with France; it might be our duty in defence of British interests directly affected by further developments."

Continuing, he declared that Great Britain claimed "not any predominant or pre-eminent position, but that of one party interested in possible developments, and in seeking a solution of the present difficulties"; that, in the judgment of the Government, "it would have been a grave mistake to let such a situation drift until an assertion of our interest in it might, owing to our previous silence, cause surprise and resentment at the moment when this assertion became most necessary and imperative." and that, he trusted, they had sufficiently guarded against by the statements already made.

Agadir and the Sus Valley.

Agadir, at the mouth of the Sus Valley, is a "closed port," where Europeans can only settle at their own risk. The Berber tribes living in the neighbourhood are among the wildest in Marocco, jealous of their

Morocco—continued.

independence, and as hostile to the Maghzen as to Christians. The population of the town, which is not above 500, supports itself by fishing and by the importation of arms from the Canary Islands. The export trade of the country inland finds an outlet through Mogador, not through Agadir. One of the few visits paid to the port in recent years was that of the French cruiser *Du Chayla*, which called in connection with the suppression of the arms traffic. On this occasion permission to land was only obtained with difficulty. (1)

With regard to the commercial value of the Sus Valley, the *Temps* writes as follows :—

There is no doubt as to the agricultural richness of the Sus Valley; the neighbourhood of the Atlas range and of the Atlantic produce comparatively favourable conditions of rainfall and climate, nevertheless the country is liable to severe droughts.

The mineral wealth of the district remains to be proved; in spite of indications of ancient workings there is no tangible proof of the existence of any large quantities of precious metals, copper or iron. It is not correct that phosphates or nitrates of commercial value have been discovered.

Statements as to the immense mineral wealth of this region rest solely on the assertions of the brothers Mannesmann. . . . The Europeans in the Sus district are only four in number: none of these reside in Agadir.

It may be added that Agadir is not a treaty port. Although as a roadstead it compares favourably with other roadsteads along the Moroccan coast, it is in no sense a harbour, being exposed to westerly gales.

France and Spain in the Gharb District.

The occupation of Alcazar by the Spanish troops and the presence of a shereefian "mehalla," with French officers in the neighbourhood of that town, in conjunction with a campaign of recrimination between the French and Spanish press, gave rise to some disagreeable incidents.

In the first of these M. Boisset, the French Consular agent, who had rendered good service to the French at the time of the advance on Fez, was arrested by Spanish soldiers for carrying arms; the news aroused deep resentment in France; explanations were demanded from the Spanish Government, who lost no time in making an honourable apology. In the next case, the facts were less clear, but to prevent a continuance of causes of friction, a *modus vivendi* was established (July 26th) between the French and Spanish Governments.

(B) MILITARY OPERATIONS.**The French Operations in July.**

ACTIVE OPERATIONS.—At the beginning of the month General Moinier's mobile force was formed in the following three columns :—

(1) Condensed from *Questions Diplomatiques et Coloniales*, 16th July...

Marocco—continued.

Unit.	French.		Natives.	'Goums'	Total.
	Officers.	Men.			
Dalbiez's Column	...	69	772	1201	128 2170
Brulard's	"	71	838	774	— 1683
Gouraud's	"	75	995	647*	727 2444
				Total	6,297

With the above force, General Moinier has been carrying out a series of very successful operations. From the 27th June to the 2nd July, the Beni M'tir country was traversed; although there was little fighting, all the chiefs of the tribe tendered their submission, including Akka Boudamam, the most irreconcilable of the Beni M'tir kaims.

Subsequently the Zemmour country was entered. There more opposition was met with, the most serious action being at Souk el Arba dez Zemmour, where the Moors had 50 men killed. After marching through the Zemmour country for 7 days, General Moinier made a junction with General Ditté's column at Tiflet, and the united French force retired to Rabat on 10th July.

Colonel Branlière, with a force of 2,000 men left Casablanca early in the month to operate against the Zaer tribe, who murdered Lt. Marchand in January last. He crossed the Korifla river on the 10th and was heavily attacked near Merchouch on the following morning. The Moors are stated to have had 150 casualties in this engagement, the French losses being 1 killed and 11 wounded. Branlière then moved eastward to Sebbab, where he has since remained.



* Senegalese.

Marocco—continued.

General Moinier has returned to Casablanca; he has announced his intention of completing the subjugation of the Zaer, and of some fractions of the Zemmour, otherwise he has stated that the period of active operations is at an end, and that "results must be consolidated and peace organized."

* * *

ORGANIZATION OF THE FRENCH TROOPS.—With the above object French forces have now, says the *Temps*, been organized as follows:—

Mehediya Sector.—Officer Commanding—General Ditte.

Posts.—Mehediya; Lalla Ito; Sidi Gueddar; Rabat; Sale; Monod; Tifet; Souk el Arba dez Zemmour.

Troops.—4 battalions colonial infantry; $1\frac{1}{2}$ battalions Senegalese; 2 battalions Zouaves; 4 battalions Algerian "Tirailleurs"; 3 field batteries; $1\frac{1}{2}$ mountain batteries; 3 squadrons Chasseurs d'Afrique; $1\frac{1}{2}$ squadrons Spahis; 1 goum (Algerian); $2\frac{1}{2}$ companies engineers; 1 telegraph detachment.

Mequinez Sector.—Officer commanding—General Dalbiez.

Posts.—Fez; Mequinez; Petit Jean.

Troops.—2 battalions colonial infantry; 1 battalion Senegalese; 1 battalion foreign legion; 3 battalions Algerian "Tirailleurs"; 6 gous (infantry) from the Shawia; 2 field batteries; 1 mountain battery; $1\frac{1}{2}$ squadrons of Spahis; 2 gous (mounted); 1 company engineers; 1 telegraph detachment.

Shawia Sector.—Officer Commanding—Colonel Branlière.

Troops.—2 battalions of Zouaves; $\frac{1}{2}$ battalion Senegalese; 2 battalions Algerian "Tirailleurs"; $\frac{1}{2}$ battalion Foreign Legion; 1 battalion colonial infantry; 2 field batteries; 1 section mountain artillery; 2 squadrons Chasseurs d'Afrique; 1 squadron Spahis; 1 engineer detachment.

FRENCH CASUALTIES.—The casualties of the French Expeditionary Force, between April 19th and June 20th, were as follows:—

	Officers.		Rank & File.		Total.		
	French.	Native.	French.	Native.			
Killed or died of wounds	...	5	—	55	8	68	
Wounded	9	1	37	20	67

Grand Total 135

Out of the above total the Foreign Legion lost 32 killed and 21 wounded.

* * *

Colonel Mangin (the defender of Fez) and Major Moreau, the commander of the Alcazar "mehalla" both returned to France on leave early in July.

Morocco—continued.

Movements of Spanish Troops.

LARACHE ZONE.—Detachments of Spanish troops have been landed at Larache at intervals. At the end of the month their distribution was approximately as follows:—

Alcazar—1,200 infantry; 150 cavalry; 1 battery mountain artillery; 2 machine guns; 2 naval guns.

Larache—400 all arms.

Wireless telegraphic communication has been established with Madrid from both Alcazar and Larache.

Colonel Sylvestre, the Spanish Commandant, has been displaying considerable activity, and has undertaken frequent military promenades in the neighbourhood of Alcazar.

CEUTA ZONE.—No change appears to have taken place in the numbers and distribution of Spanish troops, who are still in the positions which they were reported to be holding in May. Considerable activity has, however, been displayed in improving the roads between Ceuta and the Spanish positions.

MELILLA ZONE.—According to reports which have appeared in the press, a force of 2 Spanish battalions left Nador on July 3rd, and occupied, without fighting, a position near Harcha (10 miles from Tauriat Zag). This completes the line of Spanish posts dominating the country between the rivers Muluya and Kert.

NATIVE IRREGULARS.—The Spanish Government have decided to raise the following native troops:—1 battalion (4 companies), 1 squadron cavalry.

It is stated that these troops are to form a nucleus on which a larger organization may be grafted.

NORWAY.

ARMY MANŒUVRES.—Manœuvres will be held from 4th to 9th September, in Hedemarken, between Mjosen Lake (about 40 miles north-east of Christiania), and Elverum. The troops engaged will consist of about 25 battalions, 12 squadrons, 13 batteries, 3 cyclist companies, 5 machine gun companies, and detachments of engineers, sanitary corps and train.

RAILWAYS.—The Norwegian Government proposes to proceed at once with the construction of a line connecting the existing railway up the Gudbrandsdal with Trondjheim, distant about 120 miles, and gradually to convert the existing narrow gauge lines to broad gauge.

The Government proposes to spend about £140,000 on the purchase of rolling stock during 1911.

OTTOMAN EMPIRE.

Albania.

As regards the Ottoman Government, operations were more or less suspended, ostensibly to allow time for the insurgent "Malissores" to accept the terms offered to them. The period of grace was extended to the end of July; the principal concessions were said to include:—

(a) Recruits only to perform service in European Turkey

(b) Assessment of taxes to be regulated according to the financial position of the inhabitants, but the taxes to be paid as in other parts of the Empire.

Ottoman Empire—continued.

- (c) Arms eventually to be returned to owners on payment of a licence.
- (d) Necessary credits to be allotted for the establishment of schools and trade routes.

CONCENTRATION OF TROOPS.—Pending a settlement, the concentration of Turkish troops proceeded. At the end of July there were 64 battalions (35,000 men) in the actual disturbed area around Scutari, Tuzi, and Gussinje; 58 further battalions (32,000 men) further north in the Novi Bazar Sanjak, and around Uskub and Monastir; besides additional reinforcements mobilized in the Salonica command.

It was reported that Shevket Torghout Pasha was to be succeeded by Abdullah Pasha from Adrianople, and Edhem Pasha by Djavid Pasha. Edhem Pasha was in charge of the operations around Gussinje and Ipek, but was wounded in an insurgent attack on his way down from the front; Djavid Pasha commanded in the spring operations of 1910, his measures being characterized by some severity.

During July there were reported to be no less than 20,000 Albanian refugees who had crossed the border into Montenegro; these refugees were a source of serious embarrassment to the Montenegrin authorities. They could not be induced to return, as they put no faith in the Ottoman promises, and King Nicholas appeared anxious that the Powers should approach the Porte to obtain guarantees of favourable treatment. (1)



Further isolated risings have been reported from Southern Albania, but they have as yet assumed no serious proportions.

The Revolt in Yemēh.

No further disturbance was reported from the Yemen proper during July, but the Turks were apparently making vigorous preparations for the further prosecution of the campaign in Assyr.

The Sherif of Mecca's forces relieved Abha on the 2nd July, and it appears that the next move will be made against Sabiya, Turkish regular forces co-operating from Confuda and Loheia.

Besides some 52 battalions (25,000 men) in the Yemen proper, the Ottoman columns destined for service in Assyr number 18 battalions (12,000 men), besides an additional 16,000 reinforcements on their way to the locality.

PERSIA.**Political.**

The Bakhtiari road is closed owing to it being infested by robber bands.

The Sipahdar, who had reached Resht on his way to Europe, returned to Tehran at the urgent appeal of the Regent and resumed his duties as Premier. He has now been relieved of his duties by the Medjiss and Samsam appointed Premier.

(1) On the 2nd of August an assembly of the "Malissoire" chiefs at Podgoritzia, in Montenegro, decided, on the advice of King Nicholas, to accept the terms offered by Turkey, and to return to their homes.

Persia—continued.

The Medjลiss has passed two bills entrusting the entire control of the expenditure of the Imperial Bank's loan, in accordance with the programme recently approved by the Medjลiss, to the new Treasurer General.

Early in July the Medjลiss authorized the employment of three European officers to organize a Treasury Gendarmerie under the Treasurer General. These are in addition to the Swedish officers who are being engaged to reorganize the Persian Gendarmerie.

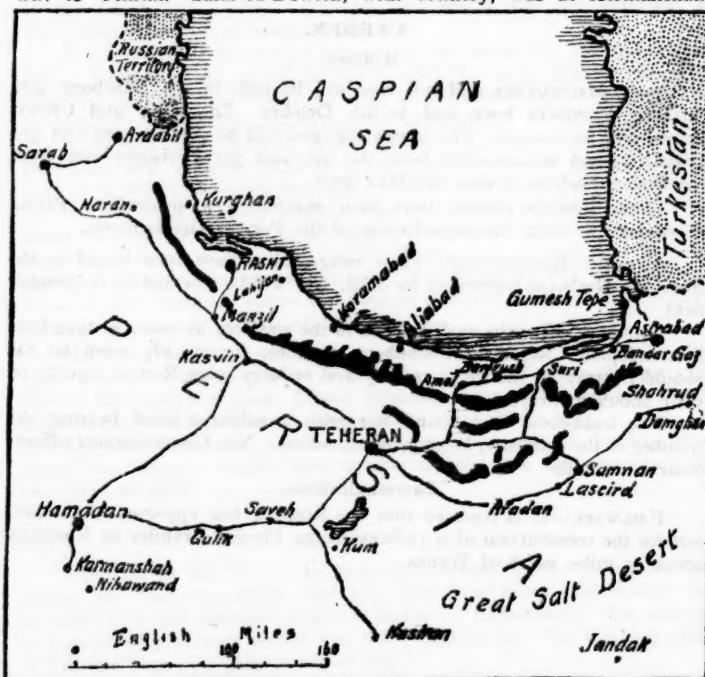
RETURN OF THE ex-SHAH.—The ex-Shah, Mahomed Ali Mirza, landed on Persian Territory at Gumesh Tepe, near Astara, at the south-eastern angle of the Caspian Sea, with a few followers on the 18th July. At the end of July it was reported that the Province of Mazanderan, which borders the south coast of the Caspian, had declared itself in his favour.

The Tehran Government were said to be taking measures to oppose the ex-Shah's advance towards the capital.

Telegrams to the *Times* (July 29th to August 3rd) announce that 2,000 men left Tehran on July 30th to oppose the ex-Shah.

The position of the forces marching on Tehran to re-establish the ex-Shah was said to be as follows:—

The ex-Shah, with one portion of the Astrabad contingent, was at Bender Gazi; the other portion was between Shahrud and Semnan, half way to Tehran. Salar-ed-Dowleh, with artillery, was at Kermanshah,



Persia—continued.

marching on Hamadan. Shudja-ed-Dowleh, the Governor of Maragha, with several hundred horsemen, machine-guns, and artillery, had reached Serab, on the road from Ardebil. Emir Assad, with 2,000 men, was near Resht, marching to join Shudja-ed-Dowleh.

The Medjliiss have set a price of £33,000 on the head of the ex-Sultan; and about £8,000 each on the heads of Shuah-es-Sultanet, and Salar-ed-Dowleh.

PORTUGAL.

PARTIAL MOBILIZATION.—In consequence of Monarchist disturbances and of reports as to the movements of conspirators on Spanish territory near the northern frontier of Portugal, reservists were called out, at an expense of £66,000, as a preventive measure. War material to the value of £155,000 was also bought, as the Monarchical régime is stated to have left the Army in an absolutely unready condition. A further sum of £112,000 was allotted to the Ministry of Marine and the Ministry of Foreign Affairs.

The *Times* correspondent reported (July 7th) that troops of all arms were being concentrated at Braga, 30 miles north of Oporto, and that the cruiser *República* was cruising off the coast.

SWEDEN.**Military.**

ARMY MANOEUVRES.—Manœuvres will be held in the Skarborg and Alfsborg Provinces from 2nd to 8th October. The King and Crown Prince will be present. The troops engaged will be the 1st, 2nd and 3rd Divisions, and detachments from the 4th and 5th Divisions and from the Boden Fortress troops will take part.

Three Swedish officers have been nominated to proceed to Persia in connection with the organization of the Persian Gendarmerie.

INFANTRY RANGEFINDER.—Zeiss rangefinders have been issued to the Svea and Norboten regiments for trial, and will be reported on in October next.

UNIFORM.—Certain modifications to the uniform as worn in 1910 have been adopted. Regimental numbers in Arabic figures are worn on the shoulder strap by infantry; cavalry and artillery carry Roman figures on their shoulder straps.

The head-dress is a round hat with a coloured band bearing the number of the company, battery, or squadron. Non-Commissioned officers wear a cockade.

Communications.

RAILWAYS.—It is reported that the Riksdag has approved of the project for the construction of a railway to the Finnish Frontier at Karunga about 15 miles north of Tornio.

AERONAUTICAL NOTES.

GREAT BRITAIN.

Military.

AVIATION IN THE ARMY.—The Under-Secretary for War stated in the House of Commons (18th July) that the question of offering a prize or prizes for Aeroplanes suitable for military use was receiving careful consideration, though he was not yet in a position to make a statement on this point.

The Army Council had been carefully considering the numbers of trained observers necessary for our present war requirements, and had come to the conclusion that 80 to 100 officer pilots were required. As present arrangements did not admit of opportunities for training so large a number, the Army Council was in communication with the various civilian schools of aviation in regard to the training of selected officers and the terms which they would consider sufficient; and it was proposed to make a grant in aid of the expenses of such training. When these officers had obtained their pilot certificates and had been finally approved by the military authorities as skilled airmen they would be classed as "Army Airmen," and a distinguishing mark would be placed against their name in the Army List. They would be attached to the Air Battalion for "refresher" courses at specified intervals.

The training of so large a number would necessarily take some time, but a commencement would be made with the least possible delay. A considerable number of mechanics with special knowledge would eventually be necessary, and they would be enlisted as required.

As regards remuneration, Colonel Seely stated that officers of the Air Battalion, and aviation officers when attached, would receive engineer pay in addition to regimental pay, and it was proposed to give such further pay or allowances as would in the opinion of the Army Council make the total remuneration adequate. The Army Council was in communication with the Admiralty and the Treasury as to this, and he hoped shortly to make a further statement. The question of a grant of non-effective allowances to officers and men in cases of accident when engaged in aviation was under consideration.

MILITARY MATERIEL.—In reply to questions Colonel Seely stated that there were 4 military aeroplanes on Salisbury Plain (1 Farman Biplane and 3 Bristol Biplanes); 2 more Bristol Biplanes were to be delivered in the week ending 22nd July, and 1 more about three weeks later.

The five sheds on Salisbury Plain were capable of holding seven aeroplanes; another double shed capable of holding 4 more machines was shortly to be built.

Naval.

AVIATION IN THE NAVY.—In reply to questions in the House of Commons, Mr. McKenna stated (1st July) that four naval officers were just completing a six months' aviation course at Eastchurch. The question of commencing another course was being considered. The training given, so far, had been of a general nature only.

FRANCE.

Development of Aeronautics in France.

The year 1910 was marked by the transformation of the military aeronautic service, with all that appertains to it, into a separate and independent "*Corps d'Aerostiers*" emancipated from the Engineer Service, to which it had previously been affiliated.

The amount expended on military aeronautics in 1910 was £88,000, while £232,000 has been asked for in the 1911 Estimates for this service.

Up to this year but little progress in aeronautics had been made in the French Army. Aviation had not emerged from the stage of laboratory experiments with motors and propellers of various forms, while the fatal accident to the dirigible "*République*" may have contributed towards arresting further effort in that direction.

During 1910, all this was changed, owing, in the first instance, to a debate in the Senate on the 31st March, 1910, when Monsieur Rémond severely criticised the military authorities for their apparent apathy, and the Chamber voted a resolution calling on the Minister for War "to secure, with the least possible delay, the autonomy and the progress of aerial navigation."

No time was lost by General Brun in giving effect to these instructions, and the following measures were adopted in rapid succession :—

On the 5th April, 1910, a corps of "*Troupes d'Aerostiers*" was formed out of the engineer units already employed in connection with ballooning, the 25th Battalion and two recently formed special companies, all of which were now placed under the command of an independent chief, and removed, except as regards purely administrative matters, from the engineer organization.

On the 19th April the central establishment of Military Aerostation Equipment and Stores was removed from the charge of the Director of Engineer Matériel and, together with the already existing Laboratory of Researches connected with military aérostation, was placed under a "Director of Military Aeronautic Matériel."

In October, 1910, a "Permanent Inspectorate of Military Aeronautics" was created, the first holder of the appointment being General Roques, lately director of engineers at headquarters. His functions are defined as follows :—

"He will follow the progress and the resources of aeronautics generally, and will study their application to military requirements. He corresponds directly, on this subject, with the Minister for War. He exercises his authority over the troops, establishments, schools, and dépôts of military aeronautics, as well as over the officers and men of all arms employed in this service, and he directs their mobilization, training and interior discipline."

An Army Order, dated the 4th June, 1911, authorized the following staff for the Permanent Inspector of Military Aeronautics.

- 1 Chief of the Staff (field officer or captain).
- 3 Captains or Lieutenants.
- 1 Officer of Military Administration.

As mentioned in Military Notes (France) the Chamber in passing the 1911 Budget, in July, 1911, increased the sum of £26,000 originally allotted for military aviation by £88,000. The Aeronautical Services have altogether been allowed £320,800 for new material.

France—continued.

Dirigibles.

As regards army dirigibles, only three were employed at the army manœuvres in 1910—the *Liberté*, the *Colonel Rénard*, and the *Clement Bayard II*.

The late General Brun, however, stated in the spring of 1910, that four more were under construction, and would be ready by the end of the year, while three new sheds, in addition to two already constructed, were also to be ready by the end of 1910.

He further stated that it was the intention of Government to purchase four more dirigibles in 1911, and that by 1913 there would be 20 sheds ready.

The establishment of dirigibles was eventually to consist of:—

Fourteen "Croiseurs," with a capacity of 247,000 to 282,000 cubic feet, and a radius of action of 140 to 150 miles.

Six "éclaireurs," with a capacity of 176,000 to 212,000 cubic feet and a radius of action of 80 to 95 miles.

This programme was to cost £800,000, of which sum, £200,800 was voted in 1910, and £202,800 was estimated for in 1911.

In March, 1911, it was stated in answer to a question in the British House of Commons that the French Army had four dirigibles complete.

The dirigibles under construction for the army in June, 1911, were:—

Four "éclaireurs."

Five "Croiseurs."

One "Vedette" (Zodiac).¹

One rigid type (Speiss).



The following information is extracted from the *Internationale Revue über Gesamte Armeen und Flotten* (June, 1911):—

The French military authorities have decided that the dirigibles which have been built and taken into the service up to the present do not fulfil the necessary requirements, chiefly because they are unable to rise to a height of 4,700 feet, the minimum elevation out of range of rifle fire. This applies especially to the two latest airships, the *Liberté* and *Colonel Rénard*. The authorities have therefore set the Astra and Clement factories to construct some new dirigibles in competition with each other. It is believed that two of these are now approaching completion. In addition to these new vessels, it is intended to purchase a number of airships of 247,203 to 282,518 cubic feet capacity, and, besides, some scout dirigibles of 176,574 to 211,888 cubic feet; negotiations with this object are now in progress between the Government and certain firms.

To the total of 14 units given above must be added various dirigibles, the property of patriotic citizens, who have placed them at the disposal of the State. The latest pattern, under this head, is the *Capitaine Marchall*, which carries a crew of 9 persons, and has a capacity of 254,266 cubic feet, a length of 276ft. 9in., and 2 motors of 60 horse power.

Simultaneously with the creation of this fleet, steps are being taken to provide suitable airship sheds, both permanent and transportable.

At Verdun there is one shed 196ft. 9in. long, and two 328ft. in length, are being built. At Toul, Epinal, Belfort, and at the Camp at Chalons, there are sheds 328ft. in length; but at Mezières, Saint Cyr, Mau-

¹Since taken over by the army.

France—continued.

beuge, and Langres the sheds required are not yet available. It is hoped to instal a gas factory in connection with each shed.

* * *

During July, 1911, the new dirigible "Adjutant Vincenot," built by the Clement firm, having satisfactorily passed its official trials, was handed over to the Army. During the official trials it broke the world's record for duration of flight and altitude, having remained in the air for over 16 hours and reached an altitude of 2,000 metres. This new dirigible has a capacity of 8,000 cubic metres, and is propelled by 2 motors, each of 120 h.p.

The small dirigible "Le Temps," built by the Zodiac firm, also passed its official trials during July, 1911.

Aviation.

The year 1910 witnessed an astonishingly rapid development of aviation in the French Army.

In April, 1910, the new corps of *Troupes d'Aerostiers* took over the existing stock of aeroplanes—viz., 4 Wrights, 2 Farmans, 2 Bleriots, and 1 Antoinette; in addition, 20 more machines, including 2 Voisins, 14 Farmans, and 7 or more Sommers, were purchased. In September, 1910, 30 more aeroplanes (10 Bleriot monoplanes and 20 Farman biplanes) are said to have been ordered, while 4 more machines (1 Bleriot, 1 Henry Farman, 1 Wright, and 1 Maurice Farman), were presented by a public subscription organized by the *Temps*.

A prize of £4,000 was offered for the production, during 1911, of the best type of machine (see page 629 of the May Journal for conditions).

Sections of the aviation school were established at Mourmelon, where the officers under instruction could benefit by the experience of the best civilian experts in the art of flying, and also at Satory and at Vincennes, while some officers were sent to private aerodromes to study special types under their inventors.

The pupils were taken from among the officers of all arms, and by the end of the year some 40 had qualified as trained pilots, including eight cavalry officers and a large number from the other arms, the engineers heading the list.

Officers were not to remain permanently with the corps; they were to rejoin their own arm after a period of service with the *aerostiers*.

At the Army manœuvres, in September, 1910, some 14 aeroplanes took part, and rendered valuable service.

In March, 1911, it was stated, in answer to a question in the British House of Commons, that the French Army possessed 70 aeroplanes.

A sum of £114,000 for aeroplanes was estimated for in 1911.

Schools for aviation have now been instituted by the War Office at Mourmelon, Vincennes, and Satory, two others are being founded at Reims, Etampes and Douai. Schools are also projected at Sissonne, Pontarlier, Abor, Clermont-Ferrand, Lyon, Toulouse, Bordeaux, and Biskra (Algeria).

Military aviators are also being trained in civil schools at a cost of from £20 to £40 per pupil (in addition to damage to material). When a machine is purchased from a constructor, the latter has to train one or more military aviators free.

The Finance Law of 1911 is authorising the War Office to second for aeronautical duties 50 officers and 50 non-commissioned officers.

France—continued.

The following information is extracted from the *Internationale Revue über Gesamte Armeen und Flotten* (June, 1911):—

The Inspector-General of military aviation, General Roques, has announced that the conditions for pilotage certificates, drawn up by the French Aeronautical Club, and accepted by the military authorities as suitable for officers, are no longer a sufficient test, in view of the requirements now demanded from officers in charge of military aeroplanes. General Roques therefore demands that a severer test shall be instituted for the certificate of military pilot, and that all officers, N.C.O.'s, and men, including those already in possession of pilots' certificates, should pass the new standard. An important part of the test would be that every candidate for a commission should first be examined as regards theoretical knowledge of atmospheric conditions, motors, and aeroplanes; he would then have to make four flights—viz., a flight overland of at least 62 miles; an endurance flight of two hours; a flight at a height of not less than 930 feet; and a flight in a wind with a velocity of not less than 33 feet per second.

The training of officers at the flying schools of Chalais-Meudon, and at Vincennes, is greatly facilitated by the large number of types of machines available. There are altogether 32 machines at the school, viz., 5 Wrights, 4 Bleriots, 11 H. Farmans, 4 M. Farmans, 2 Breguets, 4 Sommer, and 2 Antoinettes. Two additional flying schools have recently been added, one at Douai, and another at Pau; these are intended for the training of officers who are selected, not by the War Minister, but by their own generals, and are considered likely to make good aviators; the officers of the 1st and XVIIth Army Corps (Lille and Bordeaux) supply most of the pupils at these two schools.

General Roques proposes to extend this system gradually to the whole of the 18 army corps in France, so that eventually the War Minister will only, should the need arise, have to select from among the most proficient of the officer pilots who have undergone a course of training at the instance of their corps commanders. It is hoped that, by this means, the standard of the military pilots will be gradually raised, throughout the army, to the highest level attainable.

The extent to which military aviation has been developed in France may be gathered from the fact that there are not less than 130 aeroplane sheds at various places in the country; the largest are at Reims, Orleans, Pau, Bordeaux, Mourmelon, Nice, Lyon, Buc, Chartres, and Etampes.



In July, 1911, it was announced that the War Office had increased its fleet of aeroplanes by accepting 2 Voisin Biplanes. Each machine had to accomplish 2 flights of an hour's duration, carrying a load of 200 kilogrammes and petrol sufficient for a 3 hours' flight. Both machines reached a speed of 85 kilometres an hour and ascended to an altitude of 400 metres in 8 minutes, the conditions of acceptance being a speed of 75 kilometres an hour and ability to reach an altitude of 300 metres in 10 minutes.

Another fatal accident occurred during July, to a military aviator; Lieutenant Truchon of the Colonial Artillery, who had been only one month at a school, was killed when making his first free flight.

GERMANY.

Dirigibles.

The "L.z.10" (*Luftschiff Zeppelin 10*), which has been built for passenger traffic in succession to the *Deutschland* (destroyed), has been christened *Schwaben*. On July 20th she performed her first really long journey, covering some 250 miles in 6 hours 35 minutes, that is, practically, in half the time the earlier ships in 1908 took to make the same journey. There were 16 persons on board, including 8 passengers.

The small "sporting" airship Parseval V. (non-rigid) was completely destroyed by fire on June 26th.

The M 1 (Military 1) one of the older semi-rigid dirigibles, is to be transferred from Metz to Berlin, where she is to be provided with a new envelope and a larger propeller.

It is reported that there is to be a change of stations for the Zeppelin, M. (military) and P. (Parseval) airships this summer.

Aviation.

THE GRAND CIRCUIT OF GERMANY.—This competition commenced on June 11th, and was completed on July 7th. The amount distributed in prizes was £2,000. Various stages had to be abandoned owing to bad weather. After the first few stages only one or two aviators succeeded in accomplishing the required distances; and, generally speaking, the competition was not so successful as it was originally expected it would be. König, who covered 1,882½ kilometres, received first prize and Vollmöller, who covered 1,837½ kilometres, second prize.

MILITARY SCHOOL OF AVIATION.—The second of this year's courses of instruction has been completed and is said to have produced satisfactory results. The object of the instruction is not so much to teach officers the art of flying as to train them as observers.

Instructions have been issued by the Prussian War Office that strict secrecy is to be preserved concerning the results attained by military aviators.

MATERIEL.—As a result of various long-distance flights by the mechanician Hirth, among others one of 530 kilomètres (330 miles) in 5 hours 41 minutes, from Munich to Berlin, the Government has decided to purchase a monoplane of this type.

In future, the conditions for prizes to be given by the military authorities will include one that the motor must be of German make. Hitherto, although the rest of the machine had to be German, the motor might be of foreign make. Hirth's success on an Etrich Rumpier with a German motor, is said to be the cause of this change.

NAVAL AEROPLANES.—The *Times* Berlin correspondent reports (July 27th) that a Chief Naval Engineer has been appointed to superintend experimental work at Danzig in connection with the use of aeroplanes in the German Navy, and that a sum of £5,000 was voted in this year's Estimates for naval experiments in aviation.

It is understood, says the *Times*, that the German naval authorities put little trust in airships, and will devote themselves almost entirely to aeroplanes.

FOREIGN PERIODICALS.

NAVAL.

Austria-Hungary

MITTEILUNGEN AUS DEM GEBIETE DES SEEWESENS. Pola : 8th Number, 1911.—The development of naval tactics in the days of sailing ships compared with that in the era of steamships, with a forecast as to future developments. The international conference on radio telegraphy in London in 1912. Submarines with high speed under water (review of a book by del Proposto). The Japanese battleships *Aki* and *Satsuma*. The United States naval Budget for 1911/12. The adhesion of France to an international standard of time. The Turkish naval Budget. Foreign navies.

France.

LA REVUE MARITIME. Paris : June, 1911.—Do we require fast battleships? (Remarks that France has not imitated other nations in building fast battleships, and discusses the effect of this difference in various tactical situations.) A study of the longitudinal force couple of stability of aeroplanes. A practical study of the procedure to be followed from an administrative, judicial, and financial point of view, in appropriations for the public service.

LA VIE MARITIME. Paris : 10th July, 1911.—France and Germany at sea (a comparison of strength). Germany : the harbour of Emden; the *Panther* and the *Berlin*. Austria-Hungary : launch of a *Dreadnought*. Italy : launch of war vessels. Russia : the volunteer fleet. Foreign war vessels at the British naval review. Events of last fortnight in Germany. M. Fallières' escort of a naval division. The battleship *Mirabeau*. The French Naval Budget in the Senate. The increase in the calibre of heavy naval artillery.—25th July,—The French naval manoeuvres. Germany : war vessels on foreign stations; Heligoland as an independent fortress. Denmark, the German menace. United States : the secret of the *Maine*. Portugal : the naval programme. Russia : launch of *Dreadnoughts*; naval programme. Events of the fortnight in Great Britain and Germany. The dearth of light cruisers. The battle of Lissa.

LE MONITEUR DE LA FLOTTE. Paris : 1st July, 1911.—A national navy (the Portsmouth review). The navy in the Senate (the Budget debate of 21st and 22nd June). French war vessels off Marocco. Foreign navies. Germany, naval manoeuvres; Great Britain; Austria-Hungary; Japan. 8th July,—Pulling boats. Reorganization of the naval personnel (Ministerial decisions of 29th June.) Germany, armament of liners; fire control. United States, naval construction. Russia, the Black Sea fleet. Turkey, contract for a *Dreadnought*—15th July,—Fixed and movable targets for battle practice. The gyroscopic compass. The navy in Parliament (naval recruiting). The reorganization of the naval personnel. Medical officers in the navy (the decree of the 4th July). Germany, details of ships; bombardment of Heligoland. Portugal, naval programme. Russia, launch of battleships.—22nd July,—Gaps in our tactical doctrine. The naval manoeuvres. The navy in Moroccan waters. The navy in Parliament (the finance law, and the naval programme). Germany, coaling records.

Great Britain, manœuvres. United States, submarines.—**29th July**,—submarines (construction of the *Neréide*). The naval manœuvres.

LE YACHT. Paris : **1st July, 1911.**—The Portsmouth naval review.—**8th July**,—The Navy in the Senate (a summary of the Budget debate). Foreign navies: Germany, United States, Great Britain, Japan, Turkey, Norway.—**15th July**,—The reconstitution of the Russian navy. The President's voyage to Amsterdam (with plan of harbour).—**22nd July**,—Further remarks about our flotillas.—**29th July**,—The western coast of Morocco. Agadir (with a sketch of the harbour of Agadir). Before the great naval manœuvres. Map of the Suez Canal.

LA MARINE FRANCAISE. Paris : **June, 1911.**—A vital question (the question of arbitration and disarmament). The Invalid Fund. The future of the Russian navy (translated from the Russian). How far can dirigible balloons influence the course of a war?

Germany.

MARINE RUNDSCHAU. Berlin : **August, 1911.**—The naval school at Annapolis, U.S.A. The gymnastic training of American naval cadets at Annapolis. Wireless telephony in the navy. (Theory; results of various systems; the De Forest system; the Majorana microphone; the Colin and Jeance system; conclusions). The Italian naval construction programme and the Italian naval Budget, 1911/12. The plans for a railway to India and the prospects of their realization (with a map). Foreign navies. Supplement : naval literature in 1910.

MILITARY.

Austria Hungary.

STREFFLEURS MILITARISCHE ZEITSCHRIFT. Vienna : **June, 1911.**—The Russo-Turkish War, 1877/78 *continued* (Passage of the Balkans, December, 1878; gives details of supply service, march arrangements). The effect of field artillery fire *concluded* (Deductions from the Russo-Japanese War and their application). Instructional duties of regimental officers (Suggestions for officers who have to impart instruction to other officers).

The Panama Canal and its importance (The history of the undertaking; its technical difficulties and strategical importance).

The new regulations for cyclists in the Italian Army (A short summary of the Regulations) The line of communications service of the Russians in the war of 1904/05 (Describes the replacement of wastage of officers and men and horses). Communications from the School of Musketry (Japanese views on the employment of machine guns).

KAVALLERISTISCHE MONATSHEFTE. Vienna : **July and August, 1911.**—The French Cavalry at the Battle of Sedan (with 8 sketches). Cavalry Pot pourri (Mounting of officers; cavalry exercises; the German equitation manual, etc). The moral and intellectual value of cavalry. Notes on the service of strategic exploration (The conduct of exploration by a cavalry division in 5 stages from the outbreak of a war till the end of the pursuit—or retreat—after a battle) Principles for the training of cavalry in field service (contains hints for a regimental commander instructing his regiment). How far can cavalry co-operate in the decisive phase of a battle (The writer considers that opportunities will still occur).

The pike and the sword (Suggests the adoption of a pike for cavalry).—“General Service” Cavalry (Protests against regiments being detailed permanently as divisional cavalry).

Belgium.

BULLETIN DE LA PRESSE ET DE LA BIBLIOGRAPHIE MILITAIRES. Brussels: 15th June, 1911.—Fortress Warfare (A comparison of the teaching in France, Germany and Austria) *to be continued*. A new Wörth; a battle of to-morrow, *continued*. Notes on the organization of the British Army (Air battalion, transport, remounts, armament). The German Imperial Manœuvres in 1910, *continued*.

30th June, 1911.—Fortress Warfare, *continued*.—Notes on the organization of the British Army (Special Reserve; Territorials; Veteran Reserves; Lord Roberts' views) *continued*.—15th July.—The German Imperial Manœuvres in 1910 *continued*. Fortress warfare *continued*.—A new Wörth (A battlefield of to-morrow).—31st July.—The Grand Manœuvres of the French Army in 1910. A new Wörth. Fortress Warfare *continued*.

France.

JOURNAL DES SCIENCES MILITAIRES. Paris: 1st July.—Movement of armies by march, by General Bonnal (Discussion of a problem based on the movements of Napoleon's army before Jena) *to be continued*. Authority, subordination and means of discipline, Chapter II (Analysis of the moral qualities necessary for a commander). An exercise on the map (A strategical problem based on the general situation of the 14th-16th August, 1870). Small arms of modern armies and their ammunition. A detachment of the Train in the Shawia in 1908. (Gives useful information regarding transport organization and materiel in Moroccan warfare.)

15th July.—Movement of armies by march, *continued*, by General Bonnal (solution of a problem; march orders for an army). Uniformity of doctrine (a warning against stereotyped forms). The methods of fire of an “infantry” battery (discusses best means of attacking all kinds of infantry targets). The “New Army” (review of a Socialist book). Medical duties in a regiment during an action.

REVUE MILITAIRE GENERALE. Paris: July, 1911.—Analysis of a strategical situation; the preliminary stages of the battle of Mukden, by Commandant Mordacq, of the Ecole Supérieure de la Guerre (a study of the situation as it presented itself to the Russians from day to day, with comments and conclusions). Essays on the Russo-Japanese War, *continued*. (Liao Yang.) The War with Japan (Extracts from a pamphlet written by Count de Witt in reply to statements in General Kuropatkin's book; throwing some interesting sidelights on the causes of the war.) Tactics: more letters to a young officer. (The preparation for the decisive attack.) The Doctrine of National Defence (discusses the action of France in the Mediterranean in case of a European war; and how far British aid could assist in the transport of troops from Algeria).

LA REVUE D'INFANTERIE. Paris: 15th July, 1911.—The Japanese in Manchuria; Liao-Yang. (The approach actions; enveloping strategy; the

strategy of interior lines; the junction of the Japanese armies.) A shield for the infantry soldier (experiments in various countries). The new gymnastic regulations in the Russian Army (translation), *concluded*.

LE SPECTATEUR MILITAIRE. Paris: 15th July, 1911.—Field works in the Russian Army (an analysis of the Russian 1910 Regulations). A year's tactical instruction in a demi-regiment of cavalry, *continued*. (Chapter VII., extended order; attacks against infantry and cavalry.) The education of the soldier, *continued* (Discusses education under the headings of training, instruction, punishment, reward, etc.) The Battle of Coulmiers (the country round Orleans; the 7th and 8th November, 1870).

REVUE D'HISTOIRE. Paris: July, 1911.—The "Army of the East," under Kleber. The marches of Napoleon's armies (The march from the Adda to the Mincio in 1796.) The Campaign of 1813; preliminary operations; Part II., Prince Eugene's command. The Campaign of 1844 in Marocco (the Battle of Isly). The war of 1870-1871; the 1st Army of the Loire (the operations round Orleans from the 21st September to the 1st October).

REVUE MILITAIRES DES ARMEES ÉTRANGERES. Paris: July, 1911.—The new German Instructions for field artillery fire, and modern tendencies in the German artillery. The Japanese Imperial Manoeuvres. Foreign Armies:—Austria-Hungary; the projected reforms in the law of military service. Germany; remounting of the army in 1909. Spain; instructions for aviation. Italy; training of reservists. Japan; equipment and scales of rations for field service. Roumania; promotion of officers. Russia; the Budget of 1911; grants for aeronautics.

L'AFRIQUE FRANÇAISE. July, 1911.—The scope of development of French West Africa. (A lecture, with a clear map of railways built and projected). Moorish tactics (with a map of the action at Behailil, 5th June, 1911). French colonial policy: Agadir. The salt marshes of Trarza (West Africa). Operations of the mobile detachments of the companies of Saura and Tuat, November, 1909—January, 1910 (with four maps). Operations of the Liberian army. Events of the month in Morocco (with sketch of Agadir).

Germany.

JAHRBUCHER FÜR DIE DEUTSCHE ARMEE UND MARINE. Berlin: July, 1911.—The organization and employment of the French field artillery, *concluded*, by General Rohne (compares the teaching and practice in France and Germany). The importance of military spirit in an army. Notes on appreciating the value of ground (solution of problems.) The French Navy, by Captain Persius. Remarks on the supply of N.C.O.'s. (how to keep up the supply and the quality of N.C.O.'s.). Entrenching in the attack over open ground.

MILITÄR WOCHENBLATT. Berlin: 1st July, 1911.—Galloping in theory and practice (with diagrams). Instruction in agriculture in the army, *to be continued*. (Remarks on the working of the decree of 1908, introducing lectures on this subject.) "Nauticus," 1911 (a review of the 1911 edition). The new Belgian Field Service Regulations (a critical review).—4th July. — Notes from the French Army, *concluded*. (General Goiran's programme as Minister of War.) The night fighting at Grave-

lotte, to be continued. (The experiences of a N.C.O. in the Pommeranian Army Corps.) Instruction in agriculture in the Army, concluded.—**6th July.**—The military handbook of Bavaria (a review of the 45th edition). Military training for youths (gives examples of training on "Boy Scout" principles). The night fighting at Gravelotte, concluded. Observation posts (emphasizes the necessity of securing good observation points for artillery).—**8th July.**—The Boer War and its tactical lessons from British and German points of view, concluded. (The defence of Ladysmith.) The military handbook of the Bavarian Army, concluded. Military training for youths, continued. (Scouting and camping exercises.)—**11th July.**—The field guns of the future, by General Rohne. (Urges the necessity of considering what field guns are expected to accomplish, and whether shrapnel is inadequate). Notes on the armed strength of Austria-Hungary. (The new law of military service).—**13th July.**—Inspections and manœuvres. (The inspections of the allied troops in France in 1816, 1817, 1818.) The military value of aeroplanes (discusses the experiences of the French army). The field guns of the future, by General Rohne, concluded. (States some of the requirements of a future field gun.) Notes on the armed strength of Austria-Hungary (changes in the army in 1910. Naval progress). The manœuvres in Holland.—**15th July.**—One hundred and fifty years ago (the battle of Vellinghausen, 1761). The French operations in Morocco (4th article: French operations up to the taking of Mekinez). The night fighting at Gravelotte, concluded. The Spanish movements against Larache and Alcazar. (A summary of the Spanish movements on the Atlantic coast). Russian views on Army Reform. (Translation of an article in the *Rasvedshik*, to be continued).—**20th July.**—A forgotten attempt to introduce obligatory service into England (the views of Pitt in 1755). Service in the cavalry (3rd Article: duties of the squadron commander). The crescent resurgent (review of a book on the Turkish renaissance). Russian views on Army Reform, concluded.—**22nd July.**—The anniversary of Courbierè's death (the defender of Graudenz, 1806). The Canadian militia (a summary of the new organization). Notes from the Italian Army. (Recent changes; artillery materiel; law of recruiting.) Landing manœuvres in Austria (August, 1911).—**25th July.**—The "weak point," by Lieut.-General v.a. Görtz. (The battle of Spichern; the Gifert wood and Rothe Berg.) The German aerial circuit.—**27th July.**—Guidance for the employment of machine-guns in fortress warfare (extracts from the German Regulations bearing on the subject). Notes from the French Army (the change of War Ministers). The "weak point" (the battle of Gravelotte: St. Hubert). "Foot-protectors" (a patent device for saving the feet when marching).—**29th July.**—The new Italian "General Principles for the employment of the larger units" (a critical review). The British Imperial Conference and the military development of the Dominions (Survey of the progress in organization in the Dominions). Service in the Cavalry (the duties of the Major on the Staff).

INTERNATIONALE REVUE UBER DIE GESAMTE ARMEEN UND FLOTTEN.
Cologne: July, 1911.—Belgium, musketry regulations. Germany, new capital ships; mine layers. France, aeronautics; manœuvres in 1911. Italy, changes in Army administration; volunteer formations; promotion of officers. Japan, official statistics (personnel, horses). Austria-Hungary, reorganization of the heavy artillery; allowances for airmen; new conditions of service. Russia, duties of the Inspectors of Cavalry, Field

Artillery and Engineers; disciplinary battalions. Switzerland, strength and establishments.

The French Supplement (148) of July, 1911, contains a translation from *Militär Wochenschrift* on "The Russian General Staff History of the War in Manchuria." Ballistic notes, by General Rohne.

The German Supplement (131) July, 1911.—The medical services in the Russo-Japanese War.

Switzerland.

REVUE MILITAIRE SUISSE. Lausanne : July, 1911.—History of the Regiment of Swiss Guards in the service of France, *continued*. Artillery escorts. Cavalry skirmishers. Notes on foreign armies : Switzerland, Spain, France, Holland, Italy, Portugal.

PRINCIPAL ADDITIONS TO LIBRARY JULY, 1911.

Revolutionary Ireland and its Settlement. By the Rev. ROBERT H. MURRAY. 8vo. 10/6. (Macmillan & Co., Ltd.) London, 1911.

Roorkee Garrison Gazette, 23rd May, 1857—1st October, 1857. fc. fol. (Presented.) (R. Craven.) Roorkee, 1857.

The Campaign of Gettysburg. By "MILES." 8vo. 5/- (Presented.) (Forster, Groom & Co., Ltd.) London, 1911.

Basis of Evaporation. Temperature of the sea around the British Islands. Notes on the Climate of Ireland. By RICHARD STRACHAN. 8vo. 4/-. (Presented.) (Williams and Strachan.) London, 1910.

Speed and Consumption of Steamships. By J. F. RUTHVEN. 8vo. (Presented.) (J. D. Potter.) London, 1911.

Life and Letters of Sir John Hall, M.D., K.C.B., etc. By S. M. MITRA, 8vo. 16/- (Presented.) (Longmans, Green & Co.) London, 1911.

Die Verkehrs-und Nachrichtenmittel im Kriege. By H. THURN. 8vo. 5/5. (J. A. Barth.) Leipsic, 1911.

Die Französische Armee. 8vo. 6/9. (E. S. Mittler & Sohn.) Berlin, 1909.

Napoleon I., A Biography. By AUGUST FOURNIER. Translated by ANNIE ELIZABETH ADAMS. 2 vols. Illustrated. 8vo. 21/-. (Longmans, Green & Co.) London, 1911.

Company Training for Beginners. By "SPHINX." Crown 8vo. (Presented.) (Wm. Clowes & Sons, Ltd.) London, 1911.

Fondamenti di Strategia Navale. By Lieut. ROMEO BERNOTTI, Italian Navy. 8vo. 3/2. (Presented.) (Raffaello Giusti.) Leghorn, 1911.

The Black Watch at Ticonderoga. By FREDERICK B. RICHARDS. 8vo. (Presented.) New York, U.S.

The Training of a Recruit for the Royal Engineers. By Colonel B. R. WARD, R.E. Crown 8vo. (Presented.) Chatham, 1911.

Life and Times of Stein, or Germany and Prussia in the Napoleonic Age. By J. R. SEELEY. 3 vols. 8vo. 20/-. (University Press.) Cambridge, 1878.

NOTICES OF BOOKS.

How Shall We Raise Our Fighting Strength? (Zur Hebung unserer Wehrkraft zu Lande.) Anonymous. 155 pp. Berlin, 1910. Vossische Buchhandlung.¹

This book, which appeared in Germany while the new quinquennial Army Bill was under discussion, aroused great interest in military circles.

The writer criticizes many of what he considers are the weak points of the German Army, more especially as regards the education and training of officers and non-commissioned officers. He desires to strengthen the army still further, and puts forward a scheme for increasing the numbers trained annually, and amending the terms of service.

Colonel Gaedke, in an article in the *Berliner Tageblatt*, generally approves of his criticisms but disapproves, for political and economical reasons, of the scheme for increasing the army. He is of opinion that the writer is an infantry general officer of experience whose anonymity is forced on him by the views he holds, especially as to the possibility of reducing the period of colour service of the mounted arms, this being in direct opposition to official views.

The chief points in the author's scheme are as follows:—

- (I) *Active Officers*.—More instruction is necessary for officers, especially for those not on the active list.
 - (a) The time spent by prospective officers in their regiments (six months as private and non-commissioned officer), before going to a War School, is too short, and the time spent by them in the afternoons in preparing for the School would be better spent in company work. Those who join in the autumn learn very little field work, firing on the range, etc., while with their regiments during the winter months.
 - (b) During their eight months at the War School the instruction is too advanced and too theoretical. It should be confined to learning the duties of company officers.
 - (c) The succeeding four weeks practical course with the Regiment as Section Leader (Subaltern) is too short for thorough grounding in a subaltern officer's duties in the field. Here again the men who join in the autumn and leave the War School in the following December get practically no field work in their four weeks course.
 - (d) The winter tactical schemes for young subalterns are frequently more suitable for Staff College men; the essays generally imply rather a study of sources of information than actual thought, and much time is wasted over them. Officers should have time for amusement, for private study, learning languages, and reading military books.
 - (e) The various courses which officers attend, benefit only those individuals who attend them, since they do not, on return to their regiments, pass on the knowledge they have acquired. All officers should be similarly instructed.

(1.) A short notice of this book appeared in the extracts from "Recent Publications of Military Interest" on page 274 of the JOURNAL for February.

(f) A large attendance of officers at musketry schools is necessary to learn company leading in the fire fight.

In view of the above criticisms the writer considers that the following alterations are necessary.—

(a) Longer period of practical work with the regiment before joining a War School (*).

(b) A more practical course at the School.

(c) Continuation of the instruction after joining the regiment as an officer, consisting of physical, practical and theoretical exercises.

He therefore suggests the following progressive course of instruction.—

(a) 12 months in the ranks as private and non-commissioned officer, learning the work of those ranks only.

Prospective officers should join at the same time as the men, that is about the 1st October, and not every six months as now. They should serve as privates till after the Company Inspection; after that as lance corporal; and should be promoted to serjeant (*Unter Offizier*) about the 1st July. After manœuvres they should pass an examination in the regiment before going to a War School as ensign.

(b) Nine months course at an ensigns' War School.

Entrance should be by examination, the failures being retained with their regiments so as to ensure an equal standard among the ensigns at the school, for instruction in their work as subalterns.

The course at the War School to last from 1st October to the end of June, but for absentees from unavoidable causes, such as illness etc., courses to begin on 1st January, 1st April and 1st July. The work to consist of the following only.—

i. Training manuals of their own arm.

ii. Map reading. Home and foreign.

iii. Simple orders : reports, reports and sketches.

iv. Section drill : practical instruction in field work and field engineering : the conduct of the fire fight : judging distance : instruction as musketry instructors : dealing with the men : teaching recruits.

v. Officers duties and the code of honour.

vi. Law : and correspondence.

Instructional units should be attached to War Schools for the instruction of the ensigns.

(c) Three months instruction as "Ensign with sword," (*Degenfähnrich*) in section leading.

The ensign thus serves with a regiment from July to September, i.e., the best months for practical instruction.

(*) A candidate for a Commission in the German army serves (a) for six months in the ranks, after which he is appointed ensign and goes to a War School for eight or nine months before going up for the "officers' examination;" or (b) goes to a Cadet School and then serves for six months with a regiment before going up for examination.—Ed. R.U.S.I.

(d) Two years regimental duty as a subaltern.

After the 2 years training which he has already undergone, the ensign will become, at once, an officer of value in his regiment. During one of these 2 years of duty—preferably the 2nd—he should take over the company recruits. Their instruction will come easy to him after his year in the ranks, and his practical course at the War School.

(e) During the two years mentioned in (d) the officer should attend a course at a School of Musketry—and subsequently a "refresher" course as a senior lieutenant or junior captain.

These musketry courses should be held at schools with the most modern appliances and up to date ranges; there should be unlimited ammunition, and the best instructors should be employed. The courses should be essentially practical for men who are to lead a section in war.

(f) A 12 months course at an Officers War School.

The officer's power of criticism and intelligent thought will, by now, be sufficiently developed, and his character sufficiently formed, for him to benefit by a year's course of more advanced instruction.

This course to consist of physical training in the winter, more advanced theoretical training, in which the officer is taught strategy and tactics for the first time, and instruction in the work of the other arms by means of detachments of all arms at the School. Foreign languages should also be taught. The course should end with a staff ride and examination on which promotion to lieutenant should depend, seniority being dated according to success.

The writer recommends a "Drag" at the School, especially for officers of dismounted arms, and impresses the importance of sport, even for officers getting on in years. He is convinced of the advantages as regards keeping fit which would accrue if the example thus set by officers were followed by the non-commissioned officers and men.

The advantages the writer claims for his year's course at an officers' War School are:—

(i) A general levelling up of instruction.

(ii) Better training for the Staff College examination. If this latter examination must be retained he would make it easier and would confine it to Military History: Geography: Languages and Mathematics. But he would prefer to see it done away with, and entry to the Staff College dependent on the recommendation of the commanding officer, and the result of the final examination at the Officers War School.

(iii) More time can be devoted to languages when officers reach the Staff College, or else, owing to their better previous military education, it would be possible to cut down the Staff College course by a year and devote the time thus saved to attachments to other arms, to the General Staff, etc.

(iv) All officers are fitted for private study and begin to see how the General Staff work; and the good seed sown is passed on to the troops.

(g) A three months course for senior captains and junior majors as preparations for the duties of battalion or regimental commander.

- (h) A three months course for major-generals in the higher leading of troops.

The two courses (g) and (h), to take place during the winter half year, the former under general staff officers of army corps, or selected brigade commanders; the latter at the Staff College or at the Headquarters of the Great General Staff. The courses should end with a staff ride, and should include instruction in teaching, in new ideas of troop leading, and in new training manuals. Major-Generals should be instructed in the methods of inspecting other arms.

The writer emphasizes the necessity of Staff rides for general officers, dealing with the large war-formations which cannot be brought together in peace time owing to expense, and in which complete war staffs should be employed.

He insists on the admixture of regimental duty with courses, and on the necessity for staff officers serving with their regiments in each grade, and also for their commanding battalions and regiments. He considers two years to be the correct time for a staff officer returning to regimental duty to serve as company, battalion or regimental commander, one year being too short to learn thorough confidence in the position, and for the good influence of the officer himself to permeate the troops under his command.

Adjutants, he considers, should have commanded a company.

(II) *Retired Officers.*—The writer considers that the prospects of regimental officers are poor, and promotion is slow; they are not young enough when they reach senior rank, and consequently their love of the service and their interest in the performance of their duty suffer. The pay of senior regimental officers does not correspond with their station in life or with the length of their service, and in war they are not so fitted for bodily and mental exertion, nor are they so ready to accept responsibility as younger men. In these days even general officers must be in the very fullest possession of their physical and mental faculties.

The writer proposes to improve the state of affairs by:—

- (i) Retiring a sufficient number of officers after a certain length of service, these officers to be available on mobilization.
- (ii) Having fewer serving lieutenants.

With regard to (i), it would be necessary to provide an adequate pension, and to ensure employment for officers thus retired, as civil officials connected with the army, for instance, as peace supply officers, mess presidents of large officers messes at manoeuvre camps and in big garrisons, on state and town corporations, etc.

With regard to officers retired, "Z.D." (*Zur Disposition*) the writer makes the following proposals:—

- (a) Make an officers corps of those actually employed in positions such as Clothing Factory Officials, with Technical Institutes, Gendarmerie, etc; such officers to wear their former uniform with the addition of an official's badge.
- (b) Promotion to be given, and officers to attend trainings with troops, and to be employed with reserve troops in the higher ranks to which they have attained.

(c) Employment of such retired officers as governors of fortresses; on the Horse Census Commission; as commanders of *Landwehr* districts and invalid establishments.

These officers should be retired on reaching an age limit, so as not to block promotion.

The writer considers that the above measures would encourage officers to retire, and would make it easier for those who are requested to leave, especially under field rank. Quicker promotion in the army would be ensured from captain to major. At present promotion is so blocked, that 12 years as a company commander is almost the rule. So long a time makes a man stale; eight years is quite long enough in command of a company.

The writer also advocates increased pay for supernumerary majors (on the staff of the regiment) who generally wait two years before getting command of a battalion, and also for general officers.

As regards the second proposal (fewer lieutenants), he considers there is pressing necessity to shorten the length of officers' service as lieutenants. They now perform the same duties for 14 years—duties which, in case of necessity, can quite well be done by a company serjeant major. To be in such a subordinate position for so many years is not conducive to high aspirations. It means getting a company at 36, much too late, and, with a probable 12 years as a captain, the officer does not reach the rank of Major till he is 50.

Increased pay alone is not the remedy; love for the service and all keenness is crushed out of officers who spend the best years of their life in a subordinate position. The remedy is fewer lieutenants, and consequently fewer men waiting for their companies. In order to effect this, the writer proposes a corps of "vice-officers" fit to take the place of lieutenants, and consisting of non-commissioned officers of exemplary character and superior education, intelligence and upbringing, whose special aptitude at their military duties fits them for promotion to "vice-lieutenants."

Such men after four to six years service, and training in their regiments to act as "vice officers," should go to a vice officers school, with the rank of Serjeant (if not already of that rank), and undergo a six months course of instruction in section leading, musketry, and training recruits under the army corps staff and officers of the routine staff, assisted by civilian instructors for general subjects. After passing a final examination at the end of the course they should be promoted acting serjeant-major, and after serving at least six months as such with their regiments, they should be promoted to vacancies in the army corps as "vice-lieutenant" by the general officer commanding army corps, or by the Inspector-General in the case of Foot Artillery, Train, etc.

They should reach the rank of "vice lieutenant" with not more than nine years service and with the obligation to serve at least three years as such. It is not advisable to keep such men after 12 years service, as to do so would block promotion; they would get too old for their work, and find great difficulty in obtaining civil employment. The establishment should be 1 or 2 "vice-lieutenants" per company, according to the number of officers.

On mobilization these "vice lieutenants" would take the place of the present serjeant-major lieutenants, replacing subalterns in reserve and garrison formations.

They should have a special uniform, and priviliges such as a separate mess; better positions should be kept open for them in civil life, so as to raise their status above that of the non-commissioned officers. By this means one year volunteers would be induced to stay on, and serve in the active army as "Vice Officers," thus raising the whole tone and position of the rank.

The writer claims the following advantages for his scheme:—

- (a) It does away with the deficiency of company officers.
- (b) It enables the numbers of subaltern officers to be reduced, thus assisting commanding officers in selecting their ensigns.
- (c) The reduction of subalterns would lead to earlier promotion to captain, say at the end of 10 years.

On leaving the active army the "vice lieutenants" would become "vice officers" in the reserve. Under-officers of the active army who have been through the "Vice Officers School," but owing to lack of vacancies or other reasons never became "vice officers" in the active army, may be made reserve "vice officers."

Such reserve "vice officers" would be thoroughly fitted for the various duties of section leaders in mobile and immobile garrison formations on mobilization, which is not now the case with the serjeant-major lieutenants.

(III) *Reserve and Landwehr Officers.*—More instruction is required for these officers; at present they are not up to the mark, in spite of their training at manœuvre grounds, etc. The one year's training of the one-year volunteers with the colours is not sufficient, as it exists to-day; it is broken into on three or four afternoons in each week during the 4 months' course of instruction for prospective officers. The requirements of officers are now so great that a good social position and superior education alone are not sufficient. Conditions have changed completely during the century that has lapsed since the introduction of the one-year rule. The privilege of one year's service is now restricted to those with private means, for they alone can get the education necessary to pass the examination and are able to pay the expenses of the year's training.

Battalion adjutants are too young to instruct the one-year men, more experienced instructors and more suitable books are required. Further, the afternoons are not sufficient for instruction, for both teachers and taught are frequently tired out after a long morning's work in the field.

The worst feature of the system is the permission to one-year volunteers to join on the 1st April. This is practically in the middle of the military year; all such men should join their regiments with the other recruits after manœuvres.

The writer's recommendations to form a really useful and numerous corps of reserve officers are as follows:—

- (a) Training in the Autumn only (at manœuvres) and an examination for promotion.
- (b) Courses for reserve officers.
- (c) No shortening of the periods of training.

- (d) All one year volunteers not fit to serve as officers, to be employed as vice officers of reserve.
- (e) More frequent training periods.
- (f) An obligatory musketry course for all reserve officers.

In order to obtain a sufficiency of retired active officers (Z.D. officers) to act as battalion and superior commanders in second line formations, the writer considers it desirable to require every active officer who attains field rank to engage to serve as such, up to a certain age, after leaving the service. As a rule such commanders are now untrained and are not up to date. They should come out for training, or, at any rate, attend manoeuvres, staff rides, lectures, etc.; and should be retired as soon as no longer fit for field or garrison duty, according to their position.

(IV) *Non-Commissioned Officers*.—There is great difficulty in keeping good non-commissioned officers in the service. The attractions of police posts, etc., tempt them to leave, and, although their pay has been improved, it is not in proportion to the rise in the standard of living in the country.

The writer's recommendations are as follows :—

- (a) Extra pay : half to be given at once, the other half as deferred pay.
- (b) Free washing; allowance for upkeep of kit; free socks and hand-kerchiefs; duty free letters.
- (c) No deductions on going on furlough; free medical attendance.
- (d) Better lodging money for manoeuvres.
- (e) Free journeys to and from furlough.
- (f) Better pensions.

But, in addition to pecuniary considerations, he is of opinion that the following reasons prevent non-commissioned officers from extending their service :—

- (1) Much harder work with the two years' system than with the former three years' service.
- (2) Greater demands on non-commissioned officers as subordinate leaders. Too much responsibility is thrown on non-commissioned officers in barracks; in spite of the greater demands made on the individuality of the private soldier in the field, non-commissioned officers are still unnecessarily employed to supervise the men on fatigue, cleaning kits and barrack rooms, etc.
- (3) The fear of trouble if they are severe with the men. Disciplinary severity leads to their being pilloried in the papers, or even to questions in the *Reichstag*.

(V) *Men*.—The writer discusses the "employed man" question, which, as in our army, takes a very large percentage away from the ranks, and results in men going to the reserve only partially trained. His proposals are as follows :—

- (a) All range finders; bandsmen; signallers; officers' servants, etc., should be taken exclusively from men in their second year of service. Such men should be selected before manoeuvres in their first year. On return to quarters after manoeuvres—say about 25th September—they should receive special training for one month and on the 1st November, when the new recruits join, they should commence their duties. In some cases it may be necessary to keep back some of the men who have completed their service (later than the 1st November).

ber) till the new men are efficient; and, where this is necessary, the extra time spent with the colours should count as the 1st year's reserve training.

Fatigue men; clerks, etc., should, in the author's opinion, form a special section, supernumerary to regimental establishments.

The Naval Pocket Book. 1911. Edited by ROLLO LAIRD CLOWES. 1,029 pp., with numerous diagrams and an index. London, 1911. W. Thacker & Co.

This is a useful little encyclopaedia of up-to-date naval information. The main portion of the book consists of tables giving particulars regarding war vessels built, building, or projected for all the navies of the world, arranged in alphabetical order. Next follow tables of guns and small arms with data regarding calibre and ballistics, and lists of dry docks, with dimensions, similarly arranged. The last 50 pages are occupied with diagrams of armoured ships of the chief maritime Powers. The naval information is corrected up to March 1st, with addenda up to April 20th, 1911. The book also contains some useful miscellaneous tables for conversion of British measures into their metric equivalents.

The Army Review. Vol. 1. No. 1. July, 1911.

The first number of the *Army Review* contains twenty articles, in addition to an introduction by the Chief of the General Staff. The list of contributors includes Colonel Close, C.M.G. (The Maps of the Empire), Major-General Monro, C.B. (Fire and Movement), Major-General Aylmer, V.C., C.B. (The General Advanced Guard), Brigadier-General T. P. Du Cane, C.B. (Co-operation of field artillery with infantry in the attack), Colonel Paul, C.M.G. (Developments in Road Transport), Mr. Spencer-Wilkinson (The Soul of an Army), and many others whose names are a guarantee of their right to speak with authority on the subjects they have chosen.

Among the unsigned articles "The Principles of Imperial Defence," "The Development of the General Staff," "The New Zealand Territorial Force," and the papers on the organization of the German and Russian armies are of especial interest.

The issue of a Review, under the immediate direction of the Chief of the General Staff, is intended, as explained in the preface, on the one hand to disseminate information on military subjects and to inculcate the lessons in higher leading which history teaches, on the other hand to evoke the formulation and expression of individual ideas on matters which are open to discussion.

The difficulties which may be encountered in reconciling such aims as instruction and free discussion have been pointed out by more than one critic, and warnings have been uttered lest the publication of conflicting opinions in an official Review, may even result in bewildering those whom it is intended to educate. Only experience can prove whether these fears are well founded; meanwhile all well-wishers of the *Army Review* will agree in hoping that the high standard of the first issue may be maintained in future numbers.

RECENT PUBLICATIONS OF MILITARY

INTEREST.

COMPILED BY THE GENERAL STAFF, WAR OFFICE.

JULY, 1911. PUBLISHED QUARTERLY.

PART II*. SECTION I. HISTORICAL—(continued).

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Controller of His Majesty's Stationery Office.*

AERIAL NAVIGATION.

The Aeroplane. (L'Aeroplane.) By Captain Duchêne. 303 pp. 8vo.
Paris, 1910. Chapelot. 4s. 2d.

This book is a technical study of various questions affecting the construction and flight of aeroplanes. The principal points that are considered are equilibrium and stability, flight in still air, effects of wind, motive power. That portion of the French Press that deals with mechanics has reviewed the book favourably: it is of so technical a character, however, that it is more likely to prove of value to the practical aviator than to the public at large.

Airships and Aeroplanes. (Motorballons und Drachenflieger.) By Major-General L. Schleyer, Commandant of Communication Troops Brigade, Austro-Hungarian Army. 75 pp., with numerous illustrations. 8vo. Vienna, 1911. Seidel & Son. 3s.

This small work by Major-General Schleyer, who is at present Commandant of the Communication Troops Brigade in Vienna, of which the Aeronautical Establishment forms part, is divided into two portions. The first deals with Dirigibles, and information is given under the following headings:—The qualities of the different types of airships, both rigid and non-rigid, atmospherical influences, the communication of information gained, how to increase the speed of dirigibles and their employment during military operations—in the field, and in fortress and naval warfare.

In the second part Flying Machines are dealt with both as regards technical details, such as steering, stability, &c., and their military employment.

The conditions which a military flying machine should fulfil are then considered, as also the most serviceable type of machine for war purposes, the value of these machines for reconnaissance and communication duties, and also as a means of offence and defence.

* The titles of all books are given in English; this does not indicate that the books have been translated. The original title in the language in which a work is written, if not in English is given in brackets.

ARTILLERY.

Modern Artillery in the Field. By Colonel H. A. Bethell. 381 pp., with illustrations and index. 8vo. London, 1911. Macmillan & Co. 7s. 6d.

In this work Colonel Bethell deals with the principles and methods of employment of field artillery. Part I. contains a non-technical description of the most modern types of field ordnance, including anti-balloon guns. Parts II. and III. deal with practical gunnery and such matters as entrenchments, reconnaissance, billets, and the use of mechanical transport. Part IV. forms the principal part of the book and deals with the employment of artillery in co-operation with the other arms. The importance of the close and effective co-operation of gun and rifle is insisted upon throughout, and methods for attaining this object are described. The French theories on the same subject are also examined, but their most recent regulations modify to some extent the methods here described.

Without going so far as to say that all the theories expressed and methods advocated in this book are sound, we strongly recommend it to all in search of information on artillery matters as a very interesting and useful book of a non-technical nature.

Anti-balloon Guns in Germany: (Le tir contre les ballons en Allemagne.) Captain Jost de Stael-Holstein. 32 pp. 8vo. Paris, 1910. Berger-Levrault. 10d.

This little book may be divided into two parts, firstly, that dealing with the special anti-balloon guns and projectiles experimented with in Germany; secondly, the results of these experiments and the conclusions which they have led German experts to reach.

(1) The following guns constructed at Messrs. Krupp and Ehrhardt are described in considerable detail:—

- (a) The 5-centimetre (2-inch) Ehrhardt gun, mounted on an armoured motor car. This gun, together with its special projectiles, was shown at the Brussels Exhibition last year.
- (b) The 65-millimetre (2.56-inch) Krupp gun.
- (c) The 75-millimetre (2.95-inch) Krupp gun.
- (d) The 10.5-centimetre (4.14-inch) Krupp gun.

A diagram is attached showing the trajectories of the Krupp guns at various angles of fire.

A description is given of the Krupp and Ehrhardt shells, showing their construction and special qualities.

(2) Most of the experimental shooting at balloons which has taken place in Germany has been kept secret. From what has appeared in the Press, however, and from various lectures and articles, the author makes certain interesting deductions as to the opinions held by German artillery and military ballooning experts. He discusses the pronouncements of the more important German authorities on the subject, and shows the conclusions arrived at by them.

FORTIFICATION AND MILITARY ENGINEERING.

Demolition Regulations. (*Sprengvorschrift.*) 215 pp. and numerous diagrams in text. 12mo. Berlin, 1911. Bath, 2s. 6d.

These regulations supersede the reprint dated 1903, but are written on much the same lines.

The introductory portion states that pioneer battalions provided with a pioneer siege train will be specially trained in mining operations, while in the remaining battalions only a proportion of suitable men will be so trained. The former regulations required that the majority of the men in all companies should be trained in this branch.

Another innovation is the requirement that all pioneers should have a knowledge of the construction and use of hand grenades, and there is a paragraph dealing with the improvisation of these missiles.

Stress is laid on the necessity for seizing every opportunity for carrying out demolitions for the civil authorities and for private individuals.

In calculating charges for steel girders the Germans have abandoned the method of calculating the charge in grammes, and the formulæ now give the number of slabs of explosive (*Sprengkörper*) required. In other cases the charge is calculated in grammes as before.

At the end of the book there are some useful tables of the sizes of charges necessary for iron plate, columns, and girders of various cross sections.

Russian Discussions on Fortification. (*Russische Festungs-Fragen.*) By Lieutenant-Colonel Thilo von Trotha. 63 pp. 8vo. Berlin, 1911. Zuckschwerdt. 1s. 8d.

This pamphlet summarizes certain of the opinions expressed by prominent Russian officers concerning the rôle of the fortress in modern war in a series of conferences and Press articles in 1910. Russian expert opinion in these discussions was ranged in two camps—prominent engineers conservatively maintained the excellence of the present Russian system, while officers of the General Staff were generally of opinion that Russia had much to learn from Western methods.

The conservative school, led by a Major-General who is a professor at the Engineer Academy, held that to fulfil their proper strategic rôle fortresses should be grouped as near as possible to the frontier in order to render invasion impossible. The modern school maintained that in a war with the Western Powers, Russia would have to concentrate her army before taking the offensive and that owing to the comparative slowness of the Russian mobilization, the fortresses should be placed 20 to 30 days march from the hostile frontier where small garrisons would suffice to protect important centres of communication from hostile raids, and so ensure mobilization.

The author summarises the opinions of prominent Russian officers on the tactical rôle of the fortress, the typical fort and fortress zone, the group of forts and advanced posts, the use of armour in fortresses and the artillery armament.

HISTORY.

The French Revolution. By Hilaire Belloc. 253 pp. London. Williams & Norgate. 1s.

This small book does not of course pretend to be a history of the French Revolution, but is rather, as the author states in his preface, an explanation of that astonishing drama. There are brief but clear sketches of the chief actors, and in several cases Mr. Belloc's estimate of character varies from that of most historians. Especially is this the case with respect to Louis XVI. and Robespierre. But to a soldier the most interesting part of the book will be the chapters dealing with the military situation during 1792 and 1793, since the author emphasises the fact that the advance of the Prussian and Austrian Armies and the apparently hopeless condition of the French forces were the cause of the Reign of Terror. The chief operations are well described by a writer who has himself served in the French Army.

Letters of Joachim Murat (Lettres et Documents pour servir à l'histoire de Joachim Murat 1767-1815.) Vol. 5. 499 pp. 8vo. Paris, 1911. Librairie Plon. 6s.

The previous volumes of this collection of Murat's letters were noticed in numbers 9, 11, and 15 of this publication. The fifth volume deals with the Polish Campaign (1806-07), the brief interlude of peace after the Treaty of Tilsit, and Murat's appointment as Napoleon's Lieutenant in Spain during the beginning of 1808. Of these three periods by far the most interesting is the last-named, since we are given an insight into one of Napoleon's most unscrupulous intrigues. It was characteristic of the Emperor that he sent Murat to Spain at a moment's notice and never gave him any idea of the policy which was to be followed. In fact Murat and the French Ambassador at Madrid were often acting on different lines. But if Murat did not know Napoleon's ultimate aim he showed himself just as unscrupulous as his master, for we find him suggesting the plan, which was afterwards carried out, of persuading the Spanish King and his son to meet Napoleon at Bayonne and then capturing them. It is interesting to notice that Murat in his despatches insists again and again that the Spanish people would give no trouble, once the Bourbons were removed.

Many of the letters display the almost childish vanity of Murat and his love of display. Perhaps the most striking example of the pride of the "Grand Duke of Berg" was his indignation when a newspaper of his Duchy referred to the "Ministers and their illustrious families." "What epithet would the journalist give my family?" was Murat's complaint.

Historical Record of the 2nd Queen's Own Sappers and Miners, 1780 to 1909. Compiled by Lieutenant-Colonel C. H. Roe, R.E., Commandant, Queen's Own Sappers and Miners. 272 pp., with 9 appendices and index. and Queen's Own Sappers and Miners Press, Bangalore. 1909.

This work, which is for private circulation only, opens with a list of the 44 campaigns and expeditions in which the Corps has participated, followed by the roll of Honours and Distinctions which it has gained.

The evolution of the Corps from its birth in 1780 may be followed from the records given in the subsequent pages, dates being noted in the margin; the inception of the Corps and the growing need for technical troops that led to its reorganization from time to time will interest the student of organization.

The record of services shows the illustrious part played by this Corps in the history of the Indian Army, both as a technical and as a fighting unit, and is of undoubtedly value to the historian.

The appendices deal with dress, headquarter stations, Commandants, officers of the Corps, officers killed and wounded on service, rewards bestowed, the recruiting of the Corps, and the wide range of trades and work carried out by the Sappers and Miners.

History of the British Army. Volumes V. and VI. Book XIII. By the Honble. J. W. Fortescue. 437 and 414 pp., and 17 and 9 maps and plans, respectively, with index. 8vo. London, 1910. Macmillan. 18s.

These two volumes, constituting Book XIII. of Mr. Fortescue's work, cover the period 1803-1809. The ground they cover, chapter by chapter, is as follows:—

Volume V. deals with the period 1803 to July, 1807. The first four chapters are devoted to Napoleonic designs in India, and the Mahratta and Central India campaigns of Wellesley and Lake (1803-05).

Chapter V.—The futile campaign in Ceylon.

Chapter VI.—The Political situation in Europe, and the operations in the West Indies (1803-04).

Chapter VII.—Napoleon's designs in England; and the English military system from 1802 to 1804.

Chapter VIII.—Pitt's scheme of military organization, the political situation in Europe (1804-05); Napoleon's plans for the invasion of England and the counter measures adopted; the British in the Mediterranean; and the French raids on the West Indies in 1805.

Chapter IX.—The third coalition; Anglo-Russian co-operation in the Mediterranean (1805); Napoleon's overthrow of Austria at Austerlitz; and the British Expedition to the Elbe (1805-06).

Chapter X.—Windham's short service scheme (1806); the expedition to the Cape (1806); the capture of Buenos Ayres (1806); the situation in Europe (1805-06).

Chapter XI.—The British in Sicily, and their operations in Italy (1806); Napoleon's overthrow of Prussia at Jena.

Chapters XII. and XIII.—The British operations in South America (1806-07).

Volume VI. covers the period 1807 to January, 1809, and contains:—

Chapter XIV.—The European situation at the close of 1806; the expedition to Egypt, and the British in the Mediterranean (1807).

Chapter XV.—Castlereagh's policy at the War Office; the Sepoy mutiny at Vellore (1806); Napoleon's overthrow of Russia at Friedland (1807); the expedition to Copenhagen (1807).

Chapter XVI.—The general situation at the close of 1807; the Mediterranean and Portugal (1807).

Chapter XVII.—British aid to Sweden, 1808; the Mediterranean (1808).

Chapter XVIII.—Napoleon's invasion of Spain and the Spanish resistance (1808).

Chapter XIX.—Review of British military resources (1808); and arrangements for the expedition to Portugal (1808).

Chapter XX.—The expedition to Portugal (1808).

Chapters XXI to XXIII.—The operations in Spain up to and inclusive of Corunna (1808-January, 1809).

The volumes are no dry recital of historical facts, but a graphic and readable account of the doings of the British Army, with sufficient general history to enable the reader to appreciate the political situation throughout, and thus follow the cause, execution, and effect of military action.

The systematic arrangement of the chapters and the precise list of contents at the beginning of each volume facilitate ready reference to contemporary events in various parts of the world. A full index of the two volumes is given at the end of Volume VI.; it contains a list of all regiments mentioned, and furnishes a ready means of following the regimental history of individual units.

The scope of this work illustrates vividly the growth and widespread interests of the British Empire in all parts of the world; it provides material for thought and precepts of first rate importance for the soldier, the political student, and the British citizen at large.

Many of the military undertakings recounted, though comparatively little known nowadays, are full of interest, and carry their lessons in principles applicable to the changed conditions of modern war; references to authorities consulted are given in footnotes and facilitate a further detailed study of such episodes.

A few examples will serve to give some idea of the many instructive points, apart from their purely historical aspect, which these volumes offer; such are: the difficulties inherent in the operations of allied forces; the constant co-operation that the British Empire by its nature demands between Army and Navy; the disadvantages involved in a military system without continuity and dependent on party caprice; the necessity for thorough strategic insight and a clearly defined policy on the part of responsible Ministers of the Crown to enable naval and military strength to be decisively applied to a clearly defined objective—an insight peculiarly lacking in the period under review; the part that organization and systematic forethought play in the execution and results of military operations; the development of tactics; and the influence of the moral and personal factor.

Mr. Fortescue concludes Volume VI. with an able review of Sir John Moore's campaign, and an eulogistic portrayal of the services and character of that great soldier, whose sole guiding motive was loyalty, devotion to duty, and the welfare of his country.

A Soldier's Recollections. Leaves from the diary of a young Confederate. By Randolph H. McKim, late 1st Lieutenant and A.D.C., 3rd Brigade, Johnston's Division, Army of Northern Virginia. 8vo. 362 pp., London, 1910. Longmans, Green & Co. 9s.

The author, now the Reverend Dr. McKim, rector of a Washington Church, was an undergraduate at the University of Virginia when the Civil War broke out. A native of Baltimore, he enlisted in the First Maryland Regiment, commanded by Colonel George H. Steuart. With this officer he was closely associated, being appointed his A.D.C. on the 8th June, 1862. He speaks highly of his General as a disciplinarian. "The regiment soon had the reputation of being the best drilled and the best marching regiment in General Joe Johnston's Army," and at the First Manassas battle was the leading regiment of Elzey's brigade, having marched the six miles from the railway to the battlefield at the double. In the spring of 1862 it was attached to Ewell's division and took a prominent part in the Valley campaign.

In illustration of the long continued distrust popularly felt about "Stonewall" Jackson's ability for high command, the author records how at Malvern Hill, when Jackson ordered a charge, General Whiting was heard to exclaim, "Great God! won't some ranking officer come and save us from this fool?" Lieutenant McKim was not himself in the Peninsular campaign; for, being attached to the staff of General Steuart, who was severely wounded at Cross Keys, he did not rejoin the Army in the field till the Gettysburg campaign. Of this campaign he gives a critical account of considerable value.

Chapter XVI. is of special importance, being a narrative of Steuart's brigade at Gettysburg, reprinted from the "Southern Historical Papers," June, 1878. In this chapter he describes the desperate fighting which took place at Culp's Hill on 2nd and 3rd July, for which, in his opinion, Steuart's brigade has not received its due of credit. He contends that this brigade on the night of the 2nd carried line of Federal works at the point of the bayonet, and contradicts the generally received version that the works had been voluntarily vacated by the Federals. For six hours on the following morning the brigade, without a single piece of artillery, held the captured works against the assaults of seven brigades supported by a powerful artillery force; then delivered an attack against the almost impregnable works on the crest of the hill, advancing to within 20 or 30 yards of the Federal entrenchments; they then fell back to the works, from which they had emerged, and held on to them under a very heavy artillery fire, until they received orders to abandon them. The writer makes, however, a curious mistake in referring to the "tremendous artillery duel, which shook the earth for two hours" as taking place on the second day of the battle.

After the Gettysburg campaign he resigned from the Army in order to prepare for the Ministry, but rejoined again in August, 1864, as Chaplain to Colonel Munford's Second Virginia Cavalry serving with Early's army in the Valley. He was present at all three of Early's defeats, and points out the great disadvantage at which the Confederate cavalry was placed in comparison with

Sheridan's troopers, who, being armed with a repeating rifle, could fire eight shots to their opponents' one. He offers the following explanation of Early's defeat at Winchester: "A part of General Imboden's mounted command, armed with those long, cumbersome, muzzle-loading rifles, utterly unfit for mounted men (the regular Confederate cavalry carried the carbine) had given way in disorder and rushed back pell-mell through our infantry line, which was thus broken and thrown into confusion, not by the enemy, but by that mass of alarmed and half-organized men. The Federals, taking advantage of this breach in our line, charged vigorously, and so our almost victory was turned into defeat."

He also gives a new explanation of the cause of Lee's failure to save his army after the evacuation of Richmond. In a scrap-basket at the Executive Mansion a Federal soldier picked up a document, which proved to be a confidential statement made by General Lee to President Davis at the request of the Confederate Congress, "indicating the lines by which he would withdraw his Army and the points where he wished supplies to be accumulated for its use." Thus within 24 hours after Lee began his retreat, his whole plan of operations was laid before the Union commander. This incident was told the author by General Lee's eldest son, General Custis Lee, who heard it stated to General Ewell after his surrender at Sailor's Creek by the Federal General Benham, who declared that he had himself seen the document.

Probably the most important part of a very interesting book is the second Appendix, the reprint of an address delivered at Richmond in 1910 in reply to Colonel Mosby's book, "Steuart's cavalry in the Gettysburg campaign," published 1908 (reviewed in R.P.M.I., No. 8). The fundamental basis, on which Colonel Mosby based his defence of Steuart, was the alleged inaccuracy of General Lee's reports. In support of this contention he quoted a letter, dated the 28th June, in which Lee told Ewell that he had written to him "last night," informing him that Hooker was reported to have crossed the Potomac and that he must therefore fall back to concentrate with the main Army. This letter, according to Colonel Mosby, entirely refuted the statements made by Longstreet and members of Lee's Staff, and in Lee's own reports to the effect that he did not learn of Hooker's advance until late on the night of the 28th. But Dr. McKim shows that this letter was copied from memory into Lee's letter-book by a staff officer, and brings forward very strong reasons for supposing that the letter was misdated and really written on the 29th. He further argues that the sanction given by Lee to Steuart's eccentric movement was conditional upon his being able to cross the Potomac in advance of Hooker, and that on finding that the Federals had anticipated him he ought in the spirit of his orders to have turned back and crossed the Potomac in rear of the rest of the Army. He also finds Steuart guilty of wasting precious time after crossing the Potomac instead of obeying his orders to join Ewell with all despatch. If he had not delayed in order to break up Hooker's line of communication and encumbered himself with a portion of a captured train, he could have joined Early before the latter left York, or could have reached Gettysburg early on the 30th June, in which case a battle would not have been fought at that place.

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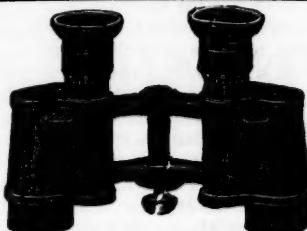
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